

DRAFT FINAL

FREMONT BICYCLE MASTER PLAN



May 2005

City of Fremont

Prepared by: Alta Planning + Design

Fremont Bicycle Master Plan

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1. INTRODUCTION

The Fremont Bicycle Master Plan provides a blueprint for making bicycling an integral part of daily life in Fremont. The Bicycle Plan provides for a citywide system of bike lanes, bike routes, bike paths, bicycle parking, support facilities, and a variety of programs to allow for safe, efficient and convenient bicycle travel within Fremont and connecting to destinations in adjacent cities. The Plan covers the “4 E’s” of planning for bicyclists – Engineering, Education, Encouragement, and Enforcement – recognizing that an approach that draws from all 4 E’s will be the most successful in improving safety and increasing the number of Fremont residents bicycling for work, shopping, school, and recreation. This plan is consistent with the Fremont General Plan goal of “convenient alternatives to the automobile to conserve energy, reduce congestion, improve air quality and provide a variety of transportation choices to meet a variety of needs.”

1.1. WHY BICYCLING?

The bicycle is a low-cost and effective means of transportation that is quiet, non-polluting, extremely energy-efficient, versatile, healthy, and fun. Bicycles also offer low-cost mobility to the non-driving public. Bicycling as a means of transportation has been growing in popularity as many communities work to create more balanced transportation systems by giving bicyclists a greater share in use of the roadway networks. In addition, recent national surveys find that more people are willing to cycle more frequently if better bicycle facilities are provided.

1.2. PURPOSE OF THE BICYCLE MASTER PLAN

This Bicycle Master Plan provides a broad vision, strategies and actions for the improvement of bicycling in Fremont. It is important to note that the City of Fremont is by no means starting from scratch in terms of accommodating and encouraging its residents to bicycle:

- Fremont has an adopted Bicycle and Pedestrian Plan and an active Bicycle Pedestrian Technical Advisory Committee that advises city staff on priority bicycle projects
- Numerous Fremont adults and children already bicycle – the Fremont Freewheelers Bicycle Club is a major recreational riding and racing club, and numerous other residents utilize facilities such as the Alameda Creek Trail on weekends.
- Fremont has been proactive in installing bicycle facilities on many of the city’s roadways, resulting in a partial network of bike lanes and routes already in place on streets such as Paseo Padre Parkway, Fremont Boulevard, Grimmer Boulevard, Walnut Avenue, and Mission Boulevard.

This Master Plan seeks to build upon these successes – to enhance and expand the existing bikeway network, connect gaps, address constrained areas, provide for

greater local and regional connectivity, education motorists and bicyclists on the rules of the road, and encourage even more residents to bicycle. Adoption of this plan by the City is important for the following reasons:

Maximize Funding Sources for Implementation. A key reason for preparing the Bicycle Master Plan is to satisfy requirements of the California Bicycle Transportation Account (BTA), and other state and federal funding programs for bicycle transportation projects for which Caltrans plays an oversight and review role. In order to qualify for available funding, the State of California requires that applicants have an adopted master plan that includes a number of specific elements related to bicycle commuting, land uses, multi-modal connections, funding, and public input. The complete list of required BTA elements and their locations in this document is provided in **Table 1-1** below.

Table 1-1
Caltrans BTA Requirements

| Required Element | Page(s) |
|---|------------------|
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| 3. Existing and Proposed Bikeways | 5-3 through 5-10 |
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Improve Safety. Reduce bicycle collisions in Fremont through design standards and guidelines, education, and enforcement.

Provide needed facilities and services. Fremont has existing bikeways on several major roadways as noted above. While these facilities provide direct routes for experienced cyclists comfortable with riding on streets with relatively high volumes of traffic, much of the success of encouraging new cyclists will depend on meeting the needs of less experienced riders and those who prefer more scenic and pleasant cross-town route alternatives. Addressing constraints and gaps areas to ensure safety and continuity, incorporating more alternative collector and residential routes into the network, and providing support facilities such as secure bicycle parking at schools, shopping centers and major employers will encourage more people to ride bicycles and enhance the level of comfort for all.

Enhance the quality of life in Fremont. The development of bicycle facilities provides for people-friendly streets, paths, trails, and activity centers available to everyone, and supports sustainable community development. Bicycling can reduce traffic congestion, vehicle exhaust emissions, noise, and energy consumption by encouraging healthier and more active forms of travel.

Set New Priorities. The Bicycle Master Plan identifies existing network needs and recommends projects that will further enhance and improve bicycling conditions in Fremont for all levels of riders. Projects identified in this plan were evaluated according to priority criteria including safety, connectivity and network needs. These priorities emphasize providing designated bikeways to significant destinations such as the neighborhood districts, the BART and Amtrak stations, major employers, schools, and parks; enhancing regional connections to adjacent cities; and providing for recreational usage of Fremont's bicycle network.

1.3. GOALS AND POLICIES OF BICYCLE MASTER PLAN

This section presents the specific goals and policies for the Fremont Bicycle Master Plan. Goals provide the context for the specific policies and actions discussed in the Bike Plan. The goals provide the long-term vision and serve as the foundation of the plan, while the policies provide more specific descriptions of actions to undertake to implement the plan. These goals and policies are based on the policies identified in the existing (2002) Fremont Bicycle and Pedestrian Plan, with modifications and additions to reflect this current plan's focus on bicycle facilities.

Goal 1: Expand and Optimize Fremont's Bicycle Facilities

- Policy 1.1. Provide bicyclists safe and accessible routes to all destinations within the City and outside the City, which are served by public roads, trails, transit and rail.
- Policy 1.2. Complete a comprehensive bikeway network by closing existing gaps and providing projects that improve intermodal connections.
- Policy 1.3. Encourage installation of bicycle parking at employment sites, schools, shopping centers, rail/transit stations, parks, recreation facilities and City facilities.

Goal 2: Plan and Design for the Needs of Bicyclists

- Policy 2.1. Include bicycle facilities in all city transportation projects where feasible and appropriate.
- Policy 2.2. Conform to the guidelines and standards of the City of Fremont, Alameda County, Metropolitan Transportation Commission, State and Federal Standards for the design and construction of bicycle facilities.
- Policy 2.3. Monitor and evaluate information on collisions involving bicyclists and use this information to assist in remedying existing problem locations and behaviors.

- Policy 2.4. Conduct regular bicycle counts so that trends and usage may be monitored and evaluated.

Goal 3: Promote bicycle safety and increased bicycling through education, encouragement, and enforcement activities.

- Policy 3.1. Continue existing and pursue new adult and youth bicycle education and safety programs in Fremont, such as Safe Moves and the League of American Bicyclists courses.
- Policy 3.2. Continue Fremont Police Department enforcement of bicycle-related violations by both motorists and bicyclists, and emphasize positive enforcement for safe bicycling behavior by children. Utilize League of American Bicyclists or other education programs as a “bicycle traffic school” for bicycle infractions.
- Policy 3.3. Support Safe Routes to School efforts that include educational and incentive programs to encourage more students to bicycle or walk to school.
- Policy 3.4. Encourage major Fremont employers to provide incentives and support facilities for existing and potential employees that commute by bicycle.
- Policy 3.5. Identify ways to encourage bicycling to large civic events, such as by providing valet bicycle parking.

Goal 4: Provide for regular maintenance of the bikeway network

- Policy 4.1. Develop a program for routine maintenance of bikeway network facilities including regular sweeping of bikeways and shared use pathways.
- Policy 4.2. Include the costs of major maintenance needs of bicycle facilities when calculating the maintenance needs of streets and roadways generally.
- Policy 4.3. Develop a program to ensure that bicycle loop detectors are installed at all signalized intersections on the bike network and are tested regularly to ensure they remain functional.
- Policy 4.4. Require that construction or repair activities, both on street and of adjacent buildings, ensure bicyclist safety at all times, minimize disruptions, and provide alternate routes if necessary.

Goal 5: Facilitate Coordination and Cooperation in Development of the Bicycle Network

- Policy 5.1. Integrate Fremont’s bikeway network with adjacent jurisdictions and Alameda County to ensure regional connectivity.
- Policy 5.2. Develop a north-south and east-west bicycle corridors within the City roadway network in keeping with the City’s commute patterns.

- Policy 5.3. Establish regular communication between adjacent cities, the East Bay Regional Park District, Caltrans, and other affected agencies regarding bicycle planning issues.
- Policy 5.4 Include “Rails to Trails” projects in the development of the bicycle network.

Goal 6: Implement the Bicycle Master Plan

- Policy 6.1. Develop and update every two years a bicycle and pedestrian projects list in coordination with the City’s Capital Improvement Program process which satisfies the City’s bicycle and pedestrian goals and objectives.
- Policy 6.2. Continue to identify and apply for public funding sources to finance bicycle/pedestrian facilities, education and safety programs.
- Policy 6.3. Update the Bicycle Master Plan periodically as required by Caltrans to reflect new policies and/or requirements for bicycle funding.

1.4. MAJOR RECOMMENDATIONS OF THE PLAN

This Bicycle Master Plan recommends expanding and enhancing Fremont’s existing bikeway network with approximately 10 miles of new Class I Bike Paths, 13 miles of new Class II Bike Lanes, 6 miles of Class III Arterial/Shared Use Routes, and 25 miles of new Class III Neighborhood Bike Routes. The cost of the recommended projects is estimated to be about \$5.6 million for the Class I projects, \$399,000 for the Class II Bike Lane projects, \$58,000 for the Class III Arterial/Shared Use projects, and \$124,000 for the Class III Neighborhood Bike Routes projects, combined for a total system buildout cost of about \$6.2 million. The recommended bikeway network is shown in **Figures 5-1 through 5-4** in Chapter 5, and the proposed network cost breakdown is provided in **Table 6-1** in Chapter 6.

In addition to the planned bikeways and bicycle facilities, this plan outlines new support, educational and encouragement programs to improve bicycle safety and get more people to try bicycling for commuting, shopping, and recreation. These recommendations include bicycle parking improvements, bicycle safety and education programs, Safe Routes to School efforts, community and employer outreach programs, and increased police enforcement of motorist and bicyclist traffic violations.

1.5. PLAN CONTENTS

The Fremont Bicycle Master Plan is organized as follows:

- Chapter 2, Existing Conditions, provides a description of the existing bicycle conditions in Fremont. The conditions presented include the existing bicycle network, support facilities, and programs, as well as existing network needs, opportunities and constraints.

- Chapter 3, Planning and Policy Context, provides an overview of relevant planning documents from the City of Fremont and adjacent jurisdictions
- Chapter 4, Needs Analysis, documents the need for bicycle transportation in Fremont including an overview of existing user groups, bicycle commute statistics, and bicycle accident data.
- Chapter 5, Recommended Bikeway System and Improvements, outlines the recommended Class I, II, and III bicycle network map, as well as support facilities and programs such as bicycle parking, Safe Routes to School, and educational efforts that will improve safety and convenience for bicyclist and complement the recommended network. Chapter 5 also includes individual Project Sheets that provide additional detail and highlight design and feasibility issues for each of the major projects identified in this plan.
- Chapter 6, Implementation, provides a complete list of recommended project components with cost estimates, outlines the highest priority projects as determined by the public, city staff, and the BPTAC, and provides a guide to system implementation and funding sources and strategies for getting the recommended bikeway network and facilities built.
- Appendices:
 - Appendix A: Bikeway Planning and Design
 - Appendix B: Bike Plan Survey Form and Results
 - Appendix C: Public Meeting Notices and Summaries
 - Appendix D: Sample Bicycle Parking Code Language
 - Appendix E: Construction Zone Treatments
 - Appendix F: Bicycle Commute and Air Quality Calculations

2. EXISTING CONDITIONS

This chapter provides a description of existing conditions within the City of Fremont relevant to this Bicycle Master Plan. Information is based on field visits, existing planning documents, maps, and conversations with City of Fremont, Alameda County and other agency staff.

2.1. SETTING

2.1.1. Location

The City of Fremont is situated on the eastern shore of the San Francisco Bay, in the southern part of Alameda County just north of Santa Clara County. Fremont encompasses about 92 square miles of land, and is bordered on the north by the cities of Union City and Hayward, on the south by the city of Milpitas, and on the east by unincorporated Alameda County lands. The city of Newark is located to the west of Fremont's urbanized area, and is completely surrounded by the city of Fremont incorporated area. Fremont's city limits extend to the San Francisco Bay, approximately halfway across the Dumbarton Bridge, and include the shoreline areas of the Don Edwards San Francisco Bay National Wildlife Refuge. With a population of approximately 208,000 Fremont is the fourth most populous city in the Bay Area, and is the fifth largest city in California in area. The topography of Fremont varies, from the low bayfront hills of Coyote Hills park, to the relatively flat urbanized core of the city between I-880 and Mission Boulevard, rising east to Mission Peak.

2.1.2. Land Uses

Fremont has a relatively dispersed development pattern, and planning for the bicycle network must take into account the fact that people live everywhere within the urbanized area of Fremont, that employment, shopping and recreational destinations are located throughout the city (or outside of Fremont), and that bicycle facilities need to provide access to and from all areas of the city. This section discusses Fremont's major community and business districts and recreational destinations, in order help identify some of the major destinations and attractors for bicycle trips.

2.1.2.1. *Community Districts*

Fremont is comprised of five major community districts – Centerville, Irvington, Mission San Jose, Niles, and Warm Springs – that were separate towns until 1956 when they joined to form the incorporated City of Fremont. These historic town districts, along with the newer business districts of Baylands, Ardenwood, and the Central Business District, form the modern city of Fremont.

Centerville is centrally located around the intersection of Fremont Boulevard and Thornton Avenue. The district has a traditional downtown commercial area along Fremont Boulevard that supports a variety of retail shops and restaurants. The area

2. Existing Conditions

is bound on the west by Interstate 880. The historic Centerville Depot train station serves the Amtrak Capital Corridor and Altamont Commuter Express trains, linking Fremont to San Jose in the south, Oakland and Sacramento in the north, and the Tri-Valley area and Stockton in the east.

Irvington is centered around the “Five Corners” area where Washington and Fremont Boulevards converge, and is a central activity area in Fremont. This area is one of the larger, older, and more historic sections of Fremont. Although the Five Corners area of Irvington includes a number of pedestrian scale building design features, much of the area stretching north along Fremont Boulevard is comprised of auto-oriented retail shopping centers. An Irvington BART station is currently being planned near Washington Boulevard as part of the Warm Springs extension.

Niles, located in the northeastern corner of Fremont, is a center for specialty retail, antique stores, and dining. The historic district is situated between Alameda Creek and the rolling hills, just off of Mission Boulevard and Niles Canyon Road. Niles is centered around a traditional downtown main street, with over eighty businesses. In 1996, the State of California Main Street Program chose Niles as an official Main Street Community.

Warm Springs, located in the southeastern part of Fremont, is home to hundreds of Fremont’s high-tech firms in the industry clusters of software, hardware, telecommunications, semiconductors, and biotechnology. Warm Springs will also be home to a new BART station, located at Osgood Road and Grimmer Boulevard, part of the BART extension from downtown Fremont into Santa Clara County.

The Mission San Jose district, located in the foothills in southeastern Fremont below Mission Peak, is home to the Mission San Jose which was established in 1797. This historic district also includes Ohlone College, the Olive Hyde Art Gallery, and the Gary Soren Smith Center for the Fine and Performing Arts. The Mission San Jose district is accessible by Driscoll Road and Mission Boulevard.

2.1.2.2. Parks and Recreation Areas

The Fremont Recreation Department oversees a variety of neighborhood and community parks, playgrounds, community centers, historical sites, and other recreational areas in Fremont. These facilities include over two hundred fifty picnic areas, thirty six tennis courts and over forty sport fields. The largest city-operated park is Central Park, located in central Fremont at Stevenson Boulevard and Paseo Padre Parkway, comprised of 450 acres of land including the 83-acre Lake Elizabeth. In addition to its size, the park’s prominent elements include its six softball fields, a driving range, a skate park, a dog park, eighteen tennis courts, four picnic sites, ten soccer fields, and boat amenities.

Regional Parks in Fremont include Coyote Hills Regional Park, located in western Fremont near the bayfront, and Mission Peak Regional Preserve, located in the eastern hills of Fremont. The Quarry Lakes Regional Recreation Area in northern Fremont includes several lakes that offer opportunities to picnic, boat, hike, view wildlife, swim and fish.

The Don Edwards San Francisco Bay National Wildlife Refuge consists of several sites covering over 25,000 acres in the South Bay, from southwestern Fremont to Redwood City. The refuge consists of ponds, sloughs and marshes and is home to a wide array of wildlife. The building that serves as the headquarters and visitor center for the Refuge is located west of Newark and south of Highway 84 and is bound on the east by Thornton Avenue.

The Alameda Creek Regional Trail is a major multi-use trail that extends through northern Fremont along Alameda Creek from Niles Canyon west to the San Francisco Bay. Segments of the San Francisco Bay Trail extend through Fremont within the Don Edwards National Wildlife Refuge and Coyote Hills Regional Park.

2.2. AFFECTED JURISDICTIONS AND AGENCIES

Implementation of the Bicycle Master Plan will require cooperation from numerous jurisdictions and agencies that share policy decisions within areas in and immediately adjacent to Fremont. These include the following:

2.2.1. City of Newark

The City of Newark is located on the southeast edge of the San Francisco Bay and is surrounded entirely by the City of Fremont. The area of Newark is approximately thirteen square miles. Just over 43,000 people reside in Newark. The city of Newark has not adopted its own bicycle plan. The city instead follows the guidelines set forth by Alameda County and the Metropolitan Transportation Commission.

2.2.2. City of Union City

The City of Union City is situated north of Fremont across the Alameda Flood Control Channel. With a population of just over 70,000 in 18 square miles, the city has an ethnically diverse community and a variety of housing types. The City is currently developing a bicycle and pedestrian master plan.

2.2.3. City of Milpitas

The City of Milpitas borders Fremont directly to the south. An extension of BART from Fremont into Milpitas, with a major multi-modal station, is in the planning stages. The City of Milpitas follows a citywide bicycle master plan adopted in 2002. The city has a Bicycle Transportation Advisory Commission that advises the City Council on modification and expansion of the City of Milpitas bikeway system.

2.2.4. Alameda County

The City of Fremont is located in the southern portion of Alameda County. Alameda County has a population of over 1.4 million people and covers 738 square miles of land. The Alameda Countywide Bicycle Plan, produced in July 2001, incorporates input from local, regional, state and federal agencies. It sets out to increase the potential for bicycle transportation by integrating it into the existing Alameda County transportation system. The plan provides a framework for the

commercial or industrial development projects, educational and recreational facilities, and transit centers.

Implementation 6: Work with Alameda County, Newark, Milpitas, San Jose and Union City to coordinate bicycle routes.

Implementation 7: Work with ABAG to coordinate connections between Fremont's bike system and ABAG's Bay Trail.

Implementation 8: Consider the establishment of bicycle safety measures, either sponsored by the City or jointly sponsored with the school district or other appropriate organizations.

Goal T 3: Transportation facilities and corridors that enhance the City's identity, and especially its historic, visual and natural resources.

Objective T 3.1.1: Transportation facilities and corridors that enhance community and City identity.

Policy T 2.3.1: Provide street improvements and facilities that enhance neighborhood, district and City identity.

Implementation 3: Transportation facilities and design shall conserve identified historic structures, sites and landmark trees whenever feasible.

Policy T 3.1.2: Require transportation facilities that aesthetically complement their built and natural environment.

Implementation 1: Work with transportation providers like BART to develop station designs which complement the areas in which they are located.

Implementation 2: The BART extension shall be trenched, covered and sound insulated under Central Park and shall be grade separated along with the existing railroad.

Implementation 3: Review proposed transportation facilities in relation to identified wetlands. Identify alternative alignments that would avoid disruption of wetlands and/or mitigations for wetlands disruption.

Implementation 4: Design standards for Hill Planning Area roads shall minimize scarring of the hills and especially the Hill Face, as discussed in the Land Use Chapter.

background direction and tools to guide the development of bicycles routes, facilities, and the environment within Alameda County. It also serves as a guide for inter-jurisdictional coordination in the planning of bike facilities that either cross boundaries or affect more than one city or planning agency.

2.2.5. Santa Clara County

Fremont borders the northern boundary of Santa Clara County. The county, often referred to as “Silicon Valley,” is a major employment center for the region, providing more than a quarter of all jobs in the Bay Area. The Santa Clara Countywide Bicycle Plan, adopted in 2000, identified projects throughout the county that serve as important linkages to existing bike routes within and around the county.

2.2.6. East Bay Regional Park District

The East Bay Regional Park District (EBRPD) manages sixty five regional parks, recreation areas, wilderness, shorelines, preserves and land bank areas. They are responsible for overseeing twenty nine regional inter-park trails. Approximately ninety percent of the district’s land is operated and protected as natural parkland. Within Fremont there are a number of major EBRPD-managed park facilities include Quarry Lakes Regional Park, Coyote Hills Regional Park, Mission Peak Regional Preserve, Ardenwood Historic Farm, and the Alameda Creek Regional Trail.

2.2.7. California Department of Transportation

The California Department of Transportation (Caltrans) has jurisdiction over the state and federal highway system in California. Highways within Fremont under Caltrans jurisdiction include Interstate 880 (I-880), Interstate 680 (I-680), State Route 238 (SR-238), State Route 262 (SR-262), and State Route 84 (SR-84). I-880 is the major north-south freeway along the East Bay, connecting San Jose with Oakland. I-680 connects San Jose northeast to the Tri-Valley communities of San Ramon and continues north to Interstate 80 in Fairfield. SR-238 is the designation of Mission Boulevard from I-680 (northern exit) north into Union City and continuing to Hayward. SR-262 is a short (approximately one-mile) segment of Mission Boulevard connecting I-680 (southern exit) to I-880. SR-84 is an east-west route that enters Fremont on Niles Canyon Road, continuing on Mowry Avenue, Peralta Boulevard, Thornton Avenue, a segment of I-880, and then west as an access-controlled freeway over the Dumbarton Bridge into Menlo Park on the west side of the Bay. Of these highways, only Interstate 880, Interstate 680 and State Route 84 west of I-880 prohibit bicycle access.

2.2.8. Alameda County Congestion Management Agency

The Alameda County Congestion Management Agency (CMA) was created in 1991 by the passage of Proposition 111 which provides gasoline tax funding for congestion management. The CMA is a joint powers agency responsible for transportation planning, funding, and other congestion management activities. Alameda County, all of its cities, and various transportation and air quality authorities sit on the CMA board.

2.2.9. Alameda County Transportation Improvement Authority

The Alameda County Transportation Improvement Authority (ACTIA) is funded by Alameda County Measure B, providing sales tax funding for transportation improvements. ACTIA is intended to implement the voter-mandated Measure B Transportation Improvement Program.

2.2.10. Local Schools**2.2.10.1. *Primary and Secondary Schools***

The Fremont Unified School District oversees the entire Fremont elementary, junior high, and high school system. The District includes 30 elementary schools, five junior high schools, five comprehensive high schools, and a continuation high school. The District serves a student population of around 31,000.

A number of private schools are also located in Fremont. **Table 2-1** lists all the public and private elementary, middle schools, and high schools located in Fremont.

2.2.10.2. *Colleges and Adult Schools*

Several types of colleges and adult schools are located in Fremont. Ohlone College, a public, two year community college with an average enrollment of 10,500 students per semester, is located on Mission Boulevard near Washington Boulevard. The University of California Berkeley Extension offers certificate and study programs, as well as teacher credential programs in adult and vocational education, and is located along Warm Springs Boulevard. Other adult educational institutions in Fremont include the Fremont Adult School, the DeVry Institute of Technology, Silicon Valley College, Northwestern Polytechnic University, the California School for the Deaf and the California School for the Blind.

Table 2-1
Elementary, Middle, and High Schools, Colleges, and Adult Schools in
Fremont

| School Name | Grades | Address |
|-------------------------------------|--------|-------------------------------|
| Ardenwood Elementary School | K-6 | 33955 Emilia Lane |
| Azevada Elementary School | K-6 | 39450 Royal Palm Drive |
| Blacow Elementary School | K-6 | 40404 Sundale Drive |
| Brier Elementary School | K-6 | 39201 Sundale Drive |
| Brookvale Elementary School | K-6 | 3400 Nicolet Avenue |
| Cabrillo Elementary School | K-6 | 36700 San Pedro Drive |
| Chadbourn Elementary School | K-6 | 801 Plymouth Avenue |
| Durham Elementary School | K-6 | 40292 Leslie Street |
| Forest Park Elementary School | K-6 | 34400 Maybird Circle |
| Glankler Elementary School | K-6 | 39207 Sundale Drive |
| Glenmoor Elementary School | K-6 | 4620 Mattos Drive |
| Gomes Elementary School | K-6 | 555 Lemos Lane |
| Green Elementary School | K-6 | 42875 Gatewood Street |
| Grimmer Elementary School | K-6 | 43030 Newport Drive |
| Hirsch Elementary School | K-6 | 41399 Chapel Way |
| Leitch Elementary School | K-6 | 47100 Fernald Street |
| Maloney Elementary School | K-6 | 38700 Logan Drive |
| Mattos Elementary School | K-6 | 37944 Farwell Drive |
| Millard Elementary School | K-6 | 5200 Valpey Park Drive |
| Mission San Jose Elementary | K-6 | 43545 Bryant Street |
| Mission Valley Elementary School | K-6 | 41700 Denise Street |
| Niles Elementary School | K-6 | 37141 Second Street |
| Oliveira Elementary School | K-6 | 4180 Alder Avenue |
| Parkmont Elementary School | K-6 | 2601 Parkside Drive |
| Patterson Elementary School | K-6 | 35521 Cabrillo Drive |
| Vallejo Mill Elementary School | K-6 | 38569 Canyon Heights Drive |
| Warm Springs Elementary School | K-6 | 47370 Warm Springs Boulevard |
| Warwick Elementary School | K-6 | 3375 Warwick Road |
| Weibel Elementary School | K-6 | 45135 South Grimmer Boulevard |
| Betel Christian Academy-Baptist | K-12 | 36060 Fremont Boulevard |
| Cabrini Academy | K-12 | 40711 Penn Lane |
| Fremont Christian School | K-12 | 4760 Thornton Avenue |
| Hope Academy | K-12 | 3779 Franklin Street |
| Christian Community | K-8 | 39700 Mission Boulevard |
| Holy Spirit Elementary School | K-8 | 3930 Parish Avenue |
| Mission Hills Christian School | K-8 | 225 Driscoll |
| New Horizons School | K-8 | 2550 Peralta Boulevard |
| Our Lady of Guadalupe Elementary | K-8 | 3635 St. Leonard's Way |
| Prince of Peace Lutheran | K-8 | 38451 Fremont Boulevard |
| Montessori School of Fremont | K-5 | 155 Washington Boulevard |
| Dominican Kindergarten | K | 43326 Mission Boulevard |
| Happy Bear Forest School | K | 39600 Mission Boulevard |
| St. Joseph Elementary School | 1-8 | 43222 Mission Boulevard |
| Centerville Junior High School | 7-8 | 37720 Fremont Boulevard |
| Hopkins Junior High School | 7-8 | 600 Driscoll Road |
| Horner Junior High School | 7-8 | 41365 Chapel Way |
| Thornton Junior High School | 7-8 | 4357 Thornton Avenue |
| Walter Junior High School | 7-8 | 39600 Logan Drive |

| School Name | Grades | Address |
|--|--------|--------------------------------|
| American High School | 9-12 | 36300 Fremont Boulevard |
| Irvington High School | 9-12 | 41800 Blacow Road |
| Kennedy High School | 9-12 | 39999 Blacow Road |
| Mission San Jose High School | 9-12 | 41717 Palm Avenue |
| Robertson High School | 9-12 | 4455 Seneca Park Avenue |
| Washington High School | 9-12 | 38442 Fremont Boulevard |
| | | |
| Ohlone College | N/A | 43600 Mission Boulevard |
| UC Berkeley Extension | N/A | 47655-B Warm Springs Boulevard |
| Northwestern Polytechnic University | N/A | 117 Fourier Avenue |
| DeVry Institute of Technology | N/A | 6600 Dumbarton Circle |
| Silicon Valley College | N/A | 41350 Christy Street |
| Fremont Adult School | N/A | 4700 Calaveras Avenue |
| Noll Adult School | N/A | 39600 Sundale Drive |
| Regional Occupational Program | N/A | 40230 Laiolo Drive |
| California School for the Deaf, Fremont | N/A | 39350 Fallaudet Drive |
| California School for the Blind, Fremont | N/A | 500 Walnut Avenue |
| Circle of Independent Learning | N/A | 4700 Calaveras Avenue |
| Teen Parent/CAL-Safe | N/A | 4455 Seneca Park Avenue |
| Vista Alternative | N/A | 4455 Seneca Park Avenue |

2.3. EXISTING BICYCLE FACILITIES

2.3.1. Definition of Bikeways

The three types of bikeways identified by Caltrans in Chapter 1000 of the Highway Design Manual are as follows. Detailed design guidelines for all three types of bikeways are provided in Appendix A.

Class I Bikeway Typically called a “bike path,” a Class I bikeway provides bicycle travel on a paved right-of-way completely separated from any street or highway.

Class II Bikeway Often referred to as a “bike lane,” a Class II bikeway provides a striped and stenciled lane for one-way travel on a street or highway.

Class III Bikeway Generally referred to as a “bike route,” a Class III bikeway provides for shared use with motor vehicle traffic and is identified only by signing.

It is important to note that bicycles are permitted on *all* roads in Fremont (with the exception of access-controlled freeways such as I-880). As such, Fremont’s entire street network is effectively the city’s bicycle network, regardless of whether or not a bikeway stripe, stencil, or sign is present on a given street. The designation of certain roads as Class II or III bicycle facilities is not intended to imply that these are the only roadways intended for bicycle use, or that bicyclists should not be riding on other streets. Rather, the designation of a network of Class II and III on-street bikeways recognizes that certain roadways are optimal bicycle routes, for reasons

2. Existing Conditions

such as directness or access to significant destinations, and allows the City of Fremont to then focus resources on building out this primary network.

One of the greatest divergences of opinion lies between those who feel paved Class I bike paths, separated from roadways, should be constructed wherever physically possible, versus those who feel more comfortable riding on streets on lanes or routes. This preference is usually based on personal feeling regarding comfort and safety. In general, Class I bike paths are desirable for recreational uses, particularly by families and children. Class I bike paths are preferred for corridors where there are few intersections or crossings, to reduce the potential for conflicts with motor vehicles. Due to their linear off-street nature, opportunities for developing Class I facilities are typically much more limited, often occurring along waterways, rail corridors, or utility corridors. As such, Class I bike paths will normally comprise a much smaller fraction of the total designated bikeway network than on-street bike lanes and routes.

There are also people who strongly believe the Class II bike lanes are effective, and preferable to providing wide outside travel lanes for shared use. This Bicycle Plan takes the approach that if properly designed, Class II bike lanes can increase safety and promote proper riding, and are therefore highly desirable for bicycle commute routes along major roadways. Bike lanes help to define the road space for bicyclists and motorists, reduce the chance that motorists will stray into the cyclists' path, discourage bicyclists from riding on the sidewalk, and remind motorists that cyclists have a right to the road. Bicyclists have stated their preference for marked on-street bicycle lanes in numerous surveys. The fact is that many bicyclists – particularly less experienced riders – are far more comfortable riding on a busy street if it has a striped and signed bike lane. Part of the goal of this Plan is to encourage new riders, and providing properly designed, marked facilities such as bike lanes is one way of helping to persuade residents to give bicycling a try.

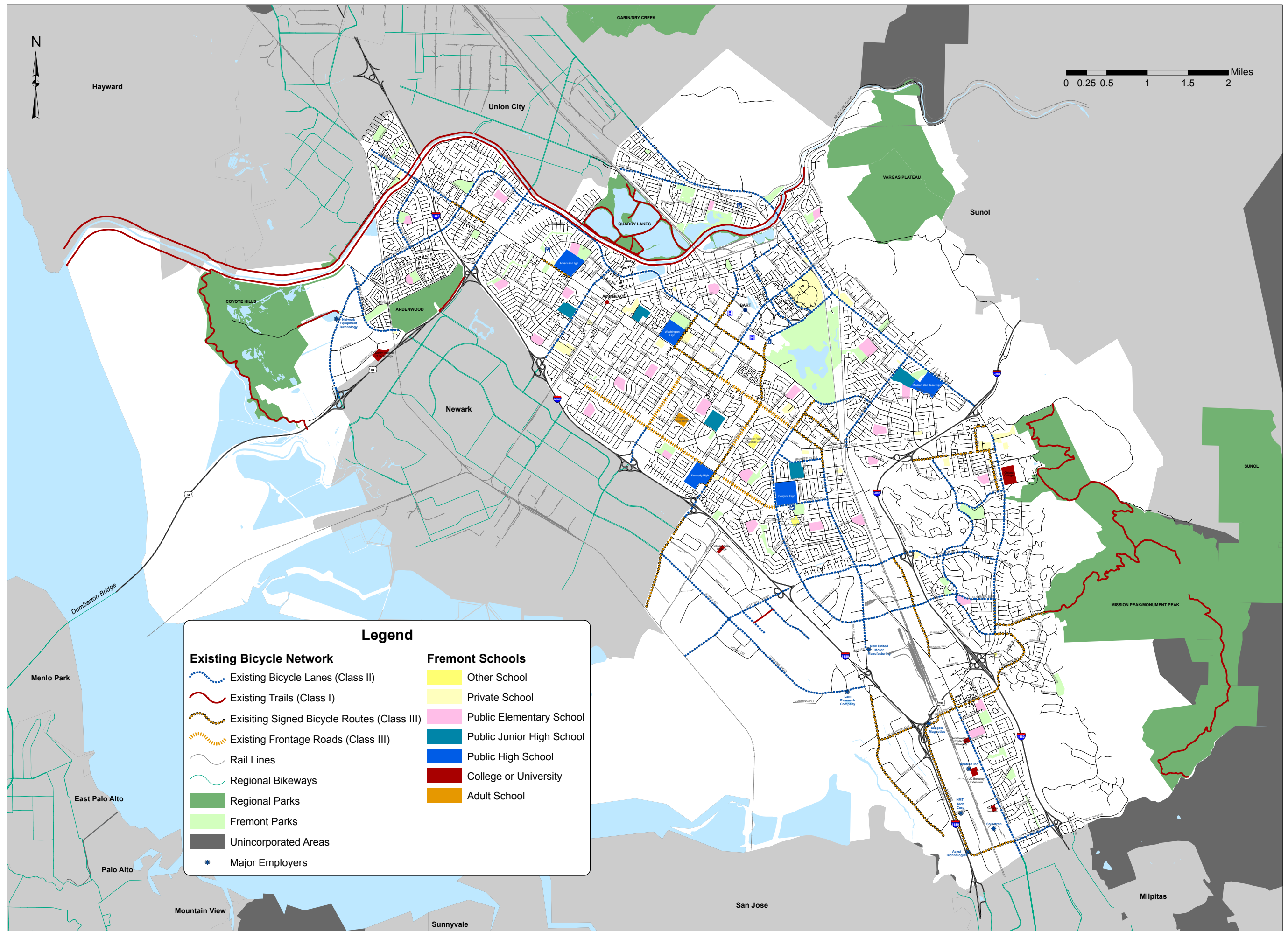
On streets with low traffic volumes and speeds (under 5,000 vehicles per day, 30 mph), striped bike lanes may not be needed at all. This is based on the potential for serious conflicts being so low that the cost of installing bike lanes is not warranted. On these types of low-traffic neighborhood streets, designated and signed Class III bike routes can serve as important connectors to schools and recreational areas such as parks. Class III bike routes may also be desirable on certain commute routes where installing bike lanes is not possible, provided that appropriate signage is installed to alert motorists to the presence of bicycles on the roadway.

Fremont's existing network of designated bikeways is shown in **Figure 2-1**. The network consists of both on- and off-street facilities. **Tables 2-2** thru **2-5** show the limits and lengths of all existing Class I, II, and III bikeway segments in the city.

2.3.2. Existing Off-Street Bike Paths

Existing off-street Class I bike path segments within Fremont are listed in **Table 2-2**. Several of the city's major trails are described below.

Figure 2-1: Fremont Existing Bicycle Network



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2.3.2.1. San Francisco Bay Trail

The San Francisco Bay Trail is a planned recreational corridor that, when completed, will encircle the shoreline of San Francisco and San Pablo Bays with a continuous 400-mile network of bicycling and hiking trails. The Bay Trail will connect the shoreline of all nine Bay Area counties, link 47 cities, and cross the major toll bridges in the region. To date, approximately 240 miles of the alignment – over half the Bay Trail’s ultimate length – have been completed. In Fremont, existing Bay Trail segments include the Newark Slough Trail and Shoreline Trail within the San Francisco Bay National Wildlife Refuge, Bayview Trail in Coyote Hills Regional Park, a segment of the Alameda Creek Trail between the bay shoreline and Ardenwood Boulevard, a trail segment parallel to South Fremont Boulevard west of I-880, and the bicycle path along the south side of the Dumbarton Bridge. Future Bay Trail segments are planned to connect south out of Fremont to Dixon Landing Road in Milpitas, as well as a segment along the railroad right of way extending through Newark toward Cushing Road in Fremont.

2.3.2.2. Alameda Creek Trail

The Alameda Creek Trail runs along the banks of Alameda Creek, beginning in the Niles District of Fremont at the mouth of Niles Canyon and running westward toward the San Francisco Bay for a total distance of twelve miles. Trails are provided on both sides of the creek -- the southern trail is located within Fremont, while the northern trail is located within the cities of Union City and Hayward. The south side is suggested for bicyclers, hikers, joggers, and runners, and the north side is designed as an equestrian trail. As noted above, a segment of the Alameda Creek Trail between the bay shore and Ardenwood Boulevard is a designated segment of the San Francisco Bay Trail.

2.3.2.3. Quarry Lakes Park Trails

Several Class I trail segments exist within Quarry Lakes Regional Recreation Area, including the 0.5-mile Niles Canyon Trail, the 1.3-mile Western Pacific Trail, the 0.3-mile Wood Duck Trail, and the 1.1-mile California trail. This network of bike paths loops around the lakes within the Quarry Lakes park, providing access to picnic areas and other park amenities.

2.3.2.4. Coyote Hills Park Trails

Coyote Hills Regional Park has an extensive network of paved and unpaved trails. The main paved trail segment is the Bay View Trail, a loop trail that begins and ends at the Visitors Center and connects to the Alameda Creek trail. The Bay View trail connects to a variety of unpaved gravel trails and footpaths, including the unpaved Bay Trail route that heads south into the Don Edward National Wildlife Refuge and crosses SR-84 at a pedestrian/bicycle bridge over the Dumbarton Toll Plaza.

2. Existing Conditions

Table 2-2
Index of Existing City of Fremont Class I (Paved) Bike Paths

| Trail | From | To | Class | Length (Miles) |
|----------------------------|----------------------------|-------------------------------|-------|----------------|
| Alameda Creek Trail | Fremont Border | Old Canyon Road | I | 11.03 |
| California Trail | Old Creek Trail | Wood Duck Trail | I | 1.13 |
| Isla Los Rancheros | Western Pacific Trail | Trail End | I | 0.25 |
| Niles Canyon Trail | Alameda Creek Trail | Old Canyon Road | I | 0.45 |
| Old Creek Trail | California Trail | Western Pacific Trail | I | 1.31 |
| Patterson Ranch Road Trail | Coyote Hills Regional Park | Patterson Ranch Road | I | 0.55 |
| Bay View Trail | Visitors Center | Visitors Ctr (loop) | I | 3.53 |
| SF Bay Trail | Fremont Blvd (West Warren) | Fremont Blvd (south terminus) | I | 1.5 |
| Western Pacific Trail | Alameda Creek Trail | Quarry Lakes Access Road | I | 1.34 |
| Wood Duck Trail | Alameda Creek Trail | California Trail | I | 0.31 |
| TOTAL MILES | | | | 21.4 |

Table 2-3
Index of Existing City of Fremont Class II Bike Lanes

| Street | From | To | Class | Length (Miles) |
|---------------------|---------------------|----------------------|-------|----------------|
| Alvarado Boulevard | N. City Limits | I-880 (N) | II | 0.87 |
| Ardenwood Boulevard | Fremont city limit | SR-84 | II | 1.16 |
| Auto Mall Parkway | I-680 | I-880 | II | 1.62 |
| Auto Mall Parkway | Boyce Road | I-880 | II | 0.71 |
| Blacow Road | Grimmer Boulevard | Fremont Boulevard | II | 0.64 |
| Boyce Road | Auto Mall Parkway | Stevenson Boulevard | II | 1.16 |
| Decoto Road | I-880 | Fremont Border | II | 1.29 |
| Deep Creek Road | Paseo Padre Parkway | Alvarado Boulevard | II | 0.93 |
| Driscoll Road | Mission Boulevard | Washington Boulevard | II | 1.39 |
| Durham Road | Mission Boulevard | I-680 | II | 1.17 |
| Fremont Boulevard | Irvington Avenue | I-880 (S) | II | 2.45 |
| Fremont Boulevard | I-880 | Beard (NB)/Enea (SB) | II | 0.34 |
| Gallaudet Drive | Walnut Avenue | Stevenson Boulevard | II | 0.45 |
| Grimmer Boulevard | Auto Mall Parkway | Fremont Boulevard | II | 2.02 |
| Guardino Drive | Mowry Avenue | Stevenson Boulevard | II | 0.95 |
| Irvington Avenue | Grimmer Boulevard | Fremont Boulevard | II | 0.59 |
| Mission Boulevard | Fremont Border | SPRR (Niles) | II | 1.94 |
| Mission Boulevard | Pickering Avenue | I-680 | II | 3.00 |

2. Existing Conditions

| Street | From | To | Class | Length (Miles) |
|-------------------------|------------------------|---------------------|-------|----------------|
| Mission Boulevard | Telles Lane | Paseo Padre Parkway | II | 2.51 |
| Mowry Avenue | I-880 | Blacow Road | II | 0.52 |
| Mowry Avenue | Peralta Boulevard | Overacker Avenue | II | 0.53 |
| Paseo Padre Parkway | Dumbarton Circle | Mowry Avenue | II | 7.0 |
| Paseo Padre Parkway | Washington Boulevard | Mission Boulevard | II | 2.87 |
| Paseo Padre Parkway | Grimmer Boulevard | Driscoll Road | II | 0.74 |
| Pine Street | Paseo Padre Parkway | Mission Boulevard | II | 0.67 |
| Scott Creek Road | Warm Springs Boulevard | I-680 | II | 0.52 |
| South Grimmer Boulevard | Mission Boulevard | Auto Mall Parkway | II | 2.66 |
| Stevenson Boulevard | Gallaudet Drive | Civic Center Drive | II | 0.66 |
| Stevenson Boulevard | Albrae Street | Omar Street | II | 0.44 |
| Thornton Avenue | Route 84 | Dumbarton Circle | II | 0.29 |
| Thornton Avenue | Paseo Padre Parkway | Blacow Road | II | 1.38 |
| Tupelo Street | Union City Boulevard | Ardenwood Boulevard | II | 0.05 |
| Walnut Avenue | Mission Boulevard | Fremont Blvd. | II | 1.81 |
| Warm Springs Boulevard | Warren Avenue | South City Limits | II | 2.01 |
| TOTAL MILES | | | | 47.63 |

Source: City of Fremont, Bicycle and Pedestrian Plan Map, December 2002; field checked in 2004

Table 2-4
Index of Existing City of Fremont Class III Bike Routes

| Street | From | To | Class | Length (Miles) |
|--------------------|----------------------|------------------------|-------|----------------|
| Country Drive | Fremont Boulevard | Paseo Padre Parkway | III | 0.51 |
| East Warren Avenue | Curtner Road | Warm Springs Boulevard | III | 1.05 |
| Ellsworth Street | Washington Boulevard | Pine Street | III | 0.52 |
| Fremont Boulevard | I-880 | Ferry Lane | III | 0.57 |
| Fremont Boulevard | Nicolet Avenue | Alder Avenue | III | 0.43 |
| Fremont Boulevard | Country Drive | Walnut Avenue | III | 0.64 |
| Fremont Boulevard | Grimmer Boulevard | Irvington Avenue | III | 0.59 |
| Fremont Boulevard | Cushing Parkway | End | III | 2.08 |
| Grimmer Boulevard | Paseo Padre Parkway | Fremont Boulevard | III | 0.44 |
| High Street | Grimmer Boulevard | SPRR | III | 0.55 |
| Kato Road | Warren Avenue | Warm Springs Boulevard | III | 2.47 |

2. Existing Conditions

| Street | From | To | Class | Length (Miles) |
|------------------------|-------------------------|---------------------|-------|----------------|
| Mission Boulevard | South Grimmer Boulevard | Paseo Padre Parkway | III | 0.43 |
| Mowry Avenue | Paseo Padre Parkway | Peralta Boulevard | III | 0.75 |
| Niles Boulevard | Fremont Border | Nursery Avenue | II | 0.92 |
| Osgood Road | South Grimmer Boulevard | Auto Mall Parkway | III | 0.66 |
| Paseo Padre Parkway | Mowry Avenue | Stevenson Boulevard | III | 0.72 |
| Paseo Padre Parkway | Mission Boulevard | Curtner Road | III | 0.61 |
| Stanford Avenue | Mission Boulevard | End | III | 0.65 |
| Starr Street | Washington Boulevard | Mission Boulevard | III | 0.44 |
| Stevenson Boulevard | Civic Center Drive | Davis Street | III | 1.10 |
| Stevenson Boulevard | Besco Drive | Omar Street | III | 0.59 |
| Stevenson Boulevard | Albrae Street | End | III | 1.21 |
| Warm Springs Boulevard | Warren Avenue | Mission Boulevard | III | 0.22 |
| Warm Springs Boulevard | South Grimmer Boulevard | Warm Springs Court | III | 0.67 |
| Warren Avenue | Warm Springs Boulevard | Kato Road | III | 0.25 |
| Washington Boulevard | I-680 | Mission Boulevard | III | 0.99 |
| TOTAL MILES | | | | 20.06 |

Source: City of Fremont, Bicycle and Pedestrian Plan Map, December 2002; field checked in 2004

Table 2-5
Index of Existing City of Fremont Class III Frontage Road Bike Routes

| Street | From | To | Class | Length (Miles) |
|---------------------|----------------|-------------------|-------|----------------|
| Blacow Road | Dowling Avenue | Boone Drive | III | 1.75 |
| Blacow Road | Porter Street | Grimmer Boulevard | III | 0.77 |
| Fremont Boulevard | Walnut Avenue | Grimmer Boulevard | III | 1.14 |
| Mowry Avenue | Blacow Road | Argonaut Way | III | 0.75 |
| Stevenson Boulevard | Davis Street | Besco Drive | III | 0.33 |
| TOTAL MILES | | | | 4.74 |

Source: City of Fremont, Bicycle and Pedestrian Plan Map, December 2002; field checked in 2004

2.3.3. Existing On-Street Bike Lanes and Routes

Fremont has a partially completed bikeway network comprised of a mix of bike lanes and routes, as shown in **Figure 2-1**. Key Class II Bike Lane segments include Paseo Padre Parkway, Grimmer Boulevard, Peralta Boulevard, Mission Boulevard,

and Fremont Boulevard (south). Most of these Class II segments are not continuous the length of the roadway, with gaps existing in a number of places, locations where the lanes drop approaching intersections or undercrossings, or other discontinuities or narrowing of the bike lane facility. Addressing these gaps or discontinuous segments is a high priority of this Bicycle Master Plan.

On some arterial roadways where there is not sufficient width to stripe bike lanes, Fremont has designated Class III Bike Routes. Arterial Class III routes include segments of Stevenson Boulevard, Fremont Boulevard, Osgood Road, Washington Boulevard, and Warren Avenue.

Some of Fremont's arterial roadways have parallel residential frontage roads located on either side of the arterial. Several frontage road segments have been designated as Class III Bike Routes (see Table 2-5, above). Roadways with Class III Frontage Roads include Fremont Boulevard, Stevenson Boulevard, and Mowry Avenue. Due to factors such as discontinuities between frontage road segments, numerous cross-streets, difficult crossings, and difficult access from the main arterial road, these frontage roads are considered unsatisfactory bicycle routes by many local cyclists.

Fremont currently has no Class III bike routes designated on neighborhood or residential streets.

2.3.4. Bikeway Signage

Implementing a well-designed, attractive, and functional system of network signage greatly enhances bikeway facilities by promoting their presence to both potential and existing users. Currently, Fremont uses standard Caltrans bikeway signage, although many facilities lack signage entirely. The city is currently seeking funding to inventory and demarcate the intersections where bicycle loops detectors and vehicles detectors are installed.

In terms of wayfinding, there is some directional signage provided along bikeways in Fremont. However, most local street connections and continuous bikeway routes are not identified. There is also some directional signage for major destinations, such as the BART station, however, the lack of good directional signage is considered by some to be a constraint to bicycling in Fremont. Particularly for Class III bike routes, destination signage helps to clarify routes, particularly in locations where two routes cross.

2.3.5. Bicycle Detector Loops

Bicycle detector loops (BDLs) are sensors that activate traffic signals when a bicyclist positions his/herself where a loop detector is installed, in bicycle or auto travel lanes at signalized intersections. There are currently BDLs installed at less than ten intersections throughout the City of Fremont. The City of Fremont maintains one hundred fifty nine signalized intersections. All of the city's signalized locations have vehicle detectors at all approaches. Some of these loops, Type D and Type C, are able to detect bicycles. At one point the City of Fremont marked bicycle detector loops with bicycle striping. Due to maintenance costs, though,

Fremont has ceased marking the location of these detectors. The city has received funding to restripe and maintain these intersections.

While BDLs facilitate faster and more convenient bicycle trips, if they aren't calibrated properly, or stop functioning, they can frustrate cyclists waiting for signals to change, unaware that the BDL is not working. The City of Fremont should develop a regular maintenance program to ensure the intended benefits of BDLs for bicycle travel. In addition, all BDL locations should be marked by a pavement stencil. The stencils wear off and should be repainted when needed. Chapter 5 provides recommendations on the structure of a BDL program.

2.3.6. Bicycle Parking

Bicycle parking is an important component in planning bicycle facilities and encouraging people to use their bicycles for everyday transportation. Bicycles are one of the top stolen items in most communities, with components often being stolen even when the bicycle frame is securely locked to a rack. Because today's bicycles are often high-cost and valuable items, many people will not use a bicycle unless they are sure that there is secure parking available at their destinations. In California, bicycle parking facilities are classified as either Class I or Class II facilities. Bear in mind that many cyclists may use (and even prefer) less "formal" bicycle parking methods, such as simply bringing their bicycle inside their building and storing it in their office. Cyclists with higher-end bicycles (perhaps costing several thousand dollars) are often reluctant to let a bicycle out of their sight at all, and for them the ability to bring a bicycle inside a building and is a paramount concern if they are considering whether or not to bicycle to work or to a store.

2.3.6.1. Class I Parking - Long Term

Class I bicycle parking facilities accommodate bicycles of employees, students, residents, and others expected to park more than two hours. This parking is provided in a secure, weather-protected manner and location. Class I bicycle parking includes a bicycle locker or a secure area like a 'bike corral' that may be accessed only by bicyclists. The new "day locker" (bike lid, eLocker, etc.) is a new bicycle locker concept that has gained recent popularity because it requires minimal program administration. These lockers allow for multiple users in the same day, therefore allowing these lockers to function similar to racks.

2.3.6.2. Class II Parking - Short-Term

Class II bicycle parking facilities are best used to accommodate bicycles of visitors, customers, messengers, and others expected to depart within two hours. This parking is provided by bicycle racks, which provide support for the bicycle but do not have locking mechanisms. Racks are relatively low-cost devices that typically hold between two and eight bicycles, allow bicyclists to securely lock their frames and wheels, are secured to the ground, and are located in highly visible areas. Racks should not be designed to damage the wheels by causing them to bend. Bike racks should be located at schools, commercial locations, and activity centers such as parks, libraries, retail locations, post offices, churches, and civic centers, or anywhere personal or professional business takes place.

2.3.6.3. Fremont Bicycle Parking Facilities

Inverted-U style bicycle racks are installed at various locations in downtown Fremont. In addition to racks at schools, universities, and city facilities throughout Fremont, there are currently 121 inverted u racks at the Fremont BART station. The Fremont ACE Amtrak station near Fremont Boulevard has 6 inverted u racks.

There are no bicycle parking requirements in the Fremont Municipal Code, therefore it is up to the individual businesses to provide racks for their employees and/or customers. Although there is no mandatory policy regarding the installation of bicycle parking racks, the City of Fremont's recommendations for the installation of bicycle racks are consistent with the Association of Pedestrian and Bicycle Professionals (APBP) *Bicycle Parking Guidelines*. Most public schools in Fremont provide bicycle parking facilities as well.

Virtually no major private employers in Fremont provide bicycle parking or shower facilities for use by bicyclists and other non-motorized commuters. **Table 2-6** contains a list of Fremont's largest employers, and a summary of whether they provide bicycle racks and showers for their employees.

Table 2-6
Provision of Bicycle Racks and Showers at Major Employers

| Employer Name | Racks? | Showers? | Number of Employees |
|--------------------------------|--------|----------|---------------------|
| New United Motor Manufacturing | No | No | 4,603 |
| LAM Research Group | 8 | No | 2,077 |
| Seagate Magnetics | No | No | 1,210 |
| HMT Technology Corporation | No | No | 1,483 |
| Altatron Inc. | No | No | 718 |
| Sysco Food Services | No | No | 1,103 |
| Solelectron Corporation | No | No | 871 |
| City of Fremont | 100 | Yes | 1,121 |

Sources: The Community Profile for the City of Fremont found on the Economic Development Alliance for Business webpage: www.edab.org/index.html?BODY=cities/fremont.html

Rack and Shower information based on Alta Planning + Design telephone survey, September 2004

2.3.7. Bicycle Support Facilities

For the purposes of this Plan, bicycle support facilities refer to end-of-trip facilities that would encourage bicyclists to commute to work or other activities that require one to "clean up" after a ride. Typically, these amenities include showers and clothing locker facilities and can be located at places of employment. Such facilities are most often provided by building owners or tenants for use by those who work in the building. Although health clubs provide showers and clothing lockers, they are only available to their members.

2. Existing Conditions

Bicycle shops are important for bicyclists making trips between urban areas in the event they suffer an equipment failure and need repair parts or service. Parks and rest stops offer cyclists water, a place to sit or rest, and restroom facilities. Transit transfer stations extend the range cyclists can commute. Locations to shower and change clothes make commuting a more viable alternative.

2.4. BICYCLE FACILITY MAINTENANCE

Currently, the maintenance of Fremont's bikeways facilities consists of restriping, replacement of missing or damaged signs, trimming of plants, pavement repair, traffic signal repair of bicycle and pedestrian devices. Other maintenance activities are conducted on an as-needed basis by the City of Fremont.

2.5. PAST BICYCLE PROGRAM EXPENDITURES

The City of Fremont's past bicycle program expenditures totaled just over 10% of the total expenditure spent on roadway maintenance and improvements. **Table 2-7** lists Fremont's past and future bicycle program funds and expenditures. Included is funding resulting from ACTIA Measure B Bikes/Peds. ACTIA distributes these funds to cities within Alameda County for the explicit purpose of planning and constructing bicycle and pedestrian projects. Also included in the total expenditure figures are Transportation Development Act (TDA) Article 3 funds, BTA and Transportation Fund for Clean Air (TFCA) funds.

Table 2-7
Past and Predicted Bicycle Program Expenditures

| Project Name | Year | Cost |
|---|-----------|--------------------|
| Bike & Pedestrian Plan | 2003-2004 | \$35,000 |
| Bike & Pedestrian Projects | 2003-2004 | \$200,000 |
| Fremont Boulevard Bike Lane, Mowry to Beard | 2004-2005 | \$200,000 |
| Central Park/Gomes Park UPRR Overcrossing | 2007-2008 | \$390,000 |
| Paseo Padre Bike Lanes | 2003-2005 | \$110,000 |
| Bike Master Plan | 2004-2005 | \$70,000 |
| Bike & Pedestrian Projects | 2004-2005 | \$250,000 |
| Traffic Signal Bike Detection | 2005-2006 | \$129,000 |
| Bike & Pedestrian Projects | 2005-2006 | \$310,000 |
| Fremont Blvd. Shoulder Widening for Bike Lane | 2005-2007 | \$180,000 |
| Citywide Bicycle Signage and Striping Project | 2006-2007 | \$121,000 |
| Bike & Pedestrian Projects | 2006-2007 | \$225,000 |
| Bikes & Pedestrian Projects | 2007-2008 | \$275,000 |
| <i>Total</i> | - | <i>\$2,015,000</i> |

Source: City of Fremont 2003/04-2007/08 Capital Improvement Program Fund Source and Use Report.

2.6. ENCOURAGEMENT AND EDUCATION PROGRAMS

2.6.1. Educational Programs

The City of Fremont offers traffic safety and education through the Development and Environmental Services Transportation Engineering. Their mission is to provide traffic safety workshops, school rodeo events, and community traffic safety rodeo events. Safe Moves hosts up to four community bike rodeo events per year. A bike rodeo is a public event combining group activities with education and entertainment aimed at educating parents and students about good riding behaviors. Children use this realistic training environment to practice bicycle handling skills, pedestrian safety, and their ability to recognize and react to traffic hazards.

Safe Moves educational programs are geared towards increasing the awareness of bicycle and pedestrian safety among elementary school children and parents in the Fremont Unified School District. The instructors discuss bicycle, pedestrian and general traffic safety at school workshops during school hours. They conduct several school workshops a year at the elementary schools in Fremont. Some of the issues covered during these workshops include:

- Safe places to ride
- Unsafe places to ride
- Traffic signs and signals
- Rights and responsibilities of bicyclists
- Helmet use (proper fit and maintenance)
- Choosing the right size bike and model
- Proper bicycling clothing recognition and avoidance of common bicycle accidents
- Bicycle maintenance and repair
- Rules, regulations and ordinances that govern bicyclists
- Suggested routes to and from school
- Locations and uses of bicycle facilities
- School bicycle policies

The City of Fremont publishes bicycle and pedestrian safety tips both in print and on their website. These tips outline behaviors that will increase safety for bicyclists and describe not only compliance with applicable traffic laws but also impart insights unique to cycling. Pedestrian safety tips inform readers about how the technology of traffic signals work and how observing those signals can increase pedestrian safety.

2.6.2. Enforcement

The City of Fremont actively enforces bicycle and motorist traffic violations through its traffic unit. Currently there are fifteen sworn officers in the traffic unit and two community service officers.

2.6.2.1. Bicycle and Pedestrian School Safety Fund

The City has implemented a double fine zone in school zones in order to create funds for bicycle and pedestrian school safety project. The request was approved by Council July 2003.

2.6.2.2. Adult Crossing Guards

The city of Fremont's Police Department contracts with ACMS, a management firm, to employ 24 professionally-trained crossing guards to work at 17 of Fremont's 32 schools while school is in session. The necessity for a crossing guard is determined by a specific set of warrants established by the City. These warrants address traffic volume, number of students crossing, and availability of alternate routes and nearby signalized intersections. Although crossing guards are focused on pedestrian crossings, they are important to mention here in the context of children bicycling to school, particularly younger children who may be riding on sidewalks and crossing in crosswalks (vs. vehicular cycling turning movements).

2.6.2.3. Junior Safety Patrol

The Junior Safety Patrol is the result of a partnership between the Police Department, Transportation Engineering, the Fremont Unified School District, and the California State Automobile Association (CSAA). Each school provides either a staff member or parent volunteer who organizes and supervises the Patrol. Fifth and sixth grade students are selected for the Patrol based upon merit, attendance, and good citizenship. Members of the Patrol take a post at school crossings and work to ensure the safety of fellow students.

The police department provides training, safety lectures, and an ongoing enforcement effort in areas surrounding the schools. School staff and/or parent volunteers provide direct supervision and support, while equipment for the Safety Patrol is provided by CSAA, at either a substantially reduced cost, or no cost at all.

2.6.2.4. Student Valet Pick-up and Drop-Off

Currently, the Fremont Police Department and Transportation Engineering are implementing a valet pick-up and drop-off program at grade schools to address congestion during peak school hours.

2.7. MULTI-MODAL CONNECTIONS

Multi-modal refers to the use of two or more modes of transportation in a single trip (i.e., bicycling and riding the bus or train). Improving the bicycle-transit link is an important part of making bicycling a part of daily life in Fremont. Linking bicycles with mass transit, especially BART commuter trains, buses, and shuttle services, overcomes such barriers as lengthy trips, personal security concerns, and riding at night or in poor weather. The transit agencies serving Fremont – AC

Transit, BART, VTA, Amtrak, and ACE – provide connections to over ten other public transit agencies that serve much of the Bay Area.

Making the multi-modal connection consists of two key elements: providing bicycle parking facilities at bus stops and bike racks on trains and buses. Two other components include improving bikeways and roadways that link with transit facilities and stops, and encouraging the use of multi-modal programs. Bicycling to transit, in lieu of driving, benefits the community by reducing air pollution, reducing the demand for parking, reducing energy consumption, and reducing traffic congestion with relatively low investment costs.

Existing multi-modal connections in Fremont are especially important when considering regional trip opportunities. A large number of Fremont residents work in San Francisco and Silicon Valley, which are served by BART and ACE trains, and VTA bus service. Ensuring adequate bicycle access on these connections will extend the travel range of individuals at both ends of the trip.

2.7.1. AC Transit

The Alameda-Contra Costa Transit District (AC Transit) District 2 is comprised of Fremont and Newark. Together they have thirteen different bus lines with a route network oriented to the Union City and Fremont BART stations. AC Transit has a shuttle that serves as an express commuter bus from Fremont to the Stanford Industrial Park in Palo Alto. Service to and from the BART station is in high demand because it serves as one of the few central locations in Fremont.

2.7.2. VTA

Destinations within Santa Clara County are served by Santa Clara Valley Transportation Authority (VTA) bus service. VTA bus routes serve several destinations within Santa Clara County from Fremont, including Milpitas, San Jose, Santa Clara, and Mountain View. All VTA routes into Fremont terminate at the Fremont BART station, with stops along Mission Boulevard. All VTA buses are equipped with exterior bike racks that can accommodate up to two bicycles. When the rack is filled, up to two bicycles will be allowed inside the bus subject to the driver's discretion and when passenger loads are light.

2.7.3. Dumbarton Express Bus

This weekday express bus service across the Dumbarton Bridge connects the Union City BART station and the Palo Alto Caltrain station, with a stop in Fremont at the Ardenwood Park and Ride. Dumbarton Express service is provided through a consortium of AC Transit, BART, Union City Transit and Santa Clara Valley Transportation Authority. The buses on the Dumbarton Express are equipped with bike racks which can accommodate up to two bicycles; however bicycles are not allowed inside the bus on the Dumbarton Express.

2.7.4. BART

BART is an intra-regional commuter rail system that connects Fremont with Alameda County, San Francisco, and Contra Costa County. The Fremont BART station is located adjacent to Fremont's Central Business District between Mowry and Walnut Avenues. (Two new stations are planned within Fremont, at the Irvington and Warm Springs Districts.) The primary destinations for Fremont BART riders are Alameda County and San Francisco. Only a small number of passengers are destined for Contra Costa County.

Fremont is served by BART's Daly City-Fremont line and the Richmond-Fremont Direct Lines, with connections to the Pittsburg/Bay Point and Dublin/Pleasanton lines. Bicycles are permitted at all times on the Richmond Line, but are not permitted to exit at Oakland 12th or 19th Street stations during commute hours. On the Daly City Line, bicycles are not permitted on BART trains heading into San Francisco in the peak commute direction (westbound a.m., eastbound p.m.), but are otherwise allowed on all trains.

2.7.5. AMTRAK and ACE Trains

Amtrak California's Capitol Corridor trains run between San Jose and Auburn, with stops including Fremont, Hayward, Oakland, Richmond, and Sacramento. Capitol Corridor trains and buses stop in Fremont at the Centerville station, located at the intersection of Peralta and Fremont Boulevards. Bicycles are allowed on all Capitol Corridor trains; each train car has a rack with the capacity to store three bicycles, and additional bicycles are allowed on board at the discretion of the conductor.

The Centerville train station is also served by Altamont Commute Express (ACE) trains that run between Stockton and San Jose. ACE stops include Tracy, Livermore, Pleasanton, Fremont, and Santa Clara. Bicycles are allowed on all ACE trains; space varies by train, and spaces are available on a first-come, first-served basis.

3. PLANNING AND POLICY CONTEXT

This section provides an overview of planning and policy documents of Fremont, Alameda County and adjacent jurisdictions that are relevant to the Bicycle Master Plan.

3.1. CITY OF FREMONT GENERAL PLAN

The City of Fremont's General Plan (1991) provides a set of directives and guidelines regarding future development in Fremont. The General Plan contains maps showing existing and proposed land uses within the City planning limits. **Figure 3-1** shows the Fremont General Plan Land Use Diagram. While there are no significant proposed changes of land use in Fremont, major planned projects include the following listed in **Table 3-1**.

Table 3-1
Index of Currently Planned Projects in Fremont

| Project Address | Type of Use |
|--|--------------------|
| Centerville Unified | Retail/Residential |
| Mission Villas | Residential |
| Walnut and Mission Boulevard | Residential |
| 990 Washington Boulevard | Residential |
| Fremont Recycle & Transfer Station | Industrial |
| 43250 Grimmer Boulevard | Industrial |
| Pacific Commons—Automall 880 | Retail/Office |
| Washington West Retail—Paseo Padre/Mowry | Retail/Service |
| Walmart—3045 Skyway Court | Retail |

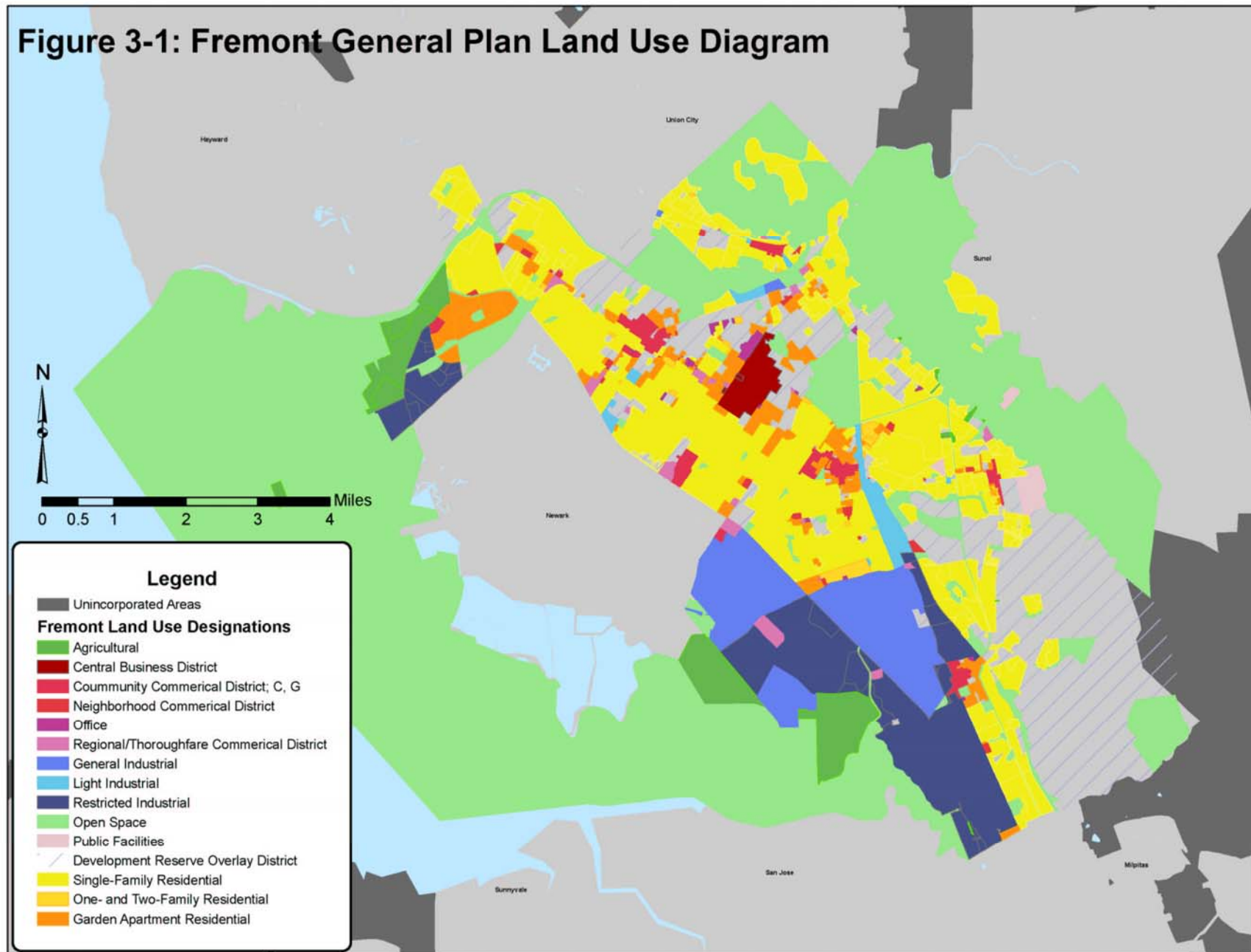
Source: City of Fremont website: <http://www.ci.fremont.ca.us/Business/MarketProfile/default.htm>
September 2004.

3.1.1. Transportation Chapter

The Transportation Chapter (Chapter 8) of the Fremont General Plan provides a discussion of a number of bicycle related issues. Goals, objectives, and policies of the General Plan related to the development of bicycle facilities include the following:

Goal T 1: Efficient use of roadway system to provide convenient travel, reduce congestion, and improve air quality.

Objective T 1.4: A reduction (from 1990 levels, adjusted for growth) in the percentage of single occupant automobiles in traffic at peak times to high employment areas.



Policy T 1.4.1: Establish a program encouraging the use of transit, ridesharing and other alternatives to commuting by single occupant vehicle.

Objective T 1.5: Participation in efforts to reduce regional traffic congestion.

Policy T 1.5.2: Work with other jurisdictions to develop solutions to regional congestion.

Implementation Program II-12: The City shall review the potential bicycle-related improvements identified in the General Plan. Potential improvements in the General Plan or others identified by the City that are found to be feasible and desirable shall be incorporated into a Bicycle-Related Improvements Program.

Goal T 2: Convenient alternatives to the automobile to conserve energy, reduce congestion, improve air quality and provide a variety of transportation choices to meet a variety of needs.

Objective T 2.3.: Easy transfer from one type of transportation to another to promote the use of alternatives to the automobile.

Policy T 2.3.1: Encourage inter-transit agency coordination to facilitate interconnections.

Implementation 1: Work with public and private transit providers to coordinate their schedules and ticketing.

Policy T 2.3.2: Provide facilities for transfers between different types of transportation.

Implementation 1: Determine the need for additional or expanded Park and Ride lots. Work with CALTRANS to identify additional sites. Consider alternative City actions to assist CALTRANS in providing these facilities.

Implementation 2: Encourage AC Transit to modify the bus staging area at the current Fremont BART station site to facilitate time transfers.

Implementation 3: Encourage future rail transit facilities to include inter-modal transfer facilities. Consider alternative City actions to assist in providing for such facilities.

Objective T 2.4: A safe and convenient bicycle network that facilitates bicycle travel for commuting to work, school, shopping and for recreation.

3. Planning and Policy Context

Policy T 2.4.1: Complete the bicycle route system identified on the Planned Bicycle Route, Horse and Foot Trails map.

Implementation 1: Develop a priority list for planned public improvements, emphasizing bicycle route connections.

Implementation 2: Periodically review and update bicycle route map to show where improvements have been made, and to identify new priorities.

Implementation 3: Amend street improvement ordinance to require dedication and construction of bicycle routes as indicated on the bicycle system diagram.

Implementation 4: Provide for bicycle safety in the design of interchanges where crossings are shown on the bicycle route diagram.

Implementation 5: Where conflicts arise between critically needed parking spaces and bicycle lanes, consider changing bicycle routes, prohibiting parking during peak hours, or developing off-street parking. If necessary, consider prohibiting parking where it would obstruct bicycle routes.

Policy T 2.4.2: To increase bicycle safety, the bicycle system shall consist of on-road striped bicycle lanes and off-road bicycle trails, whenever feasible.

Implementation 1: Continue use of state standards for construction of bicycle lanes and bicycle trails, at a minimum.

Policy T 2.4.3: Promote bicycle travel.

Implementation 1: Along bicycle routes, provide bicycle route signs that indicate major destinations.

Implementation 2: Make available to Fremont households and businesses an easy to use bicycle route map.

Implementation 3: Continue to maintain adequate sweeping and pavement repairs on bicycle routes.

Implementation 4: Monitor bicycle accident levels and recommend safety improvements where needed.

Implementation 5: Amend the zoning code to require adequate and secure bicycle parking facilities at all new or substantially modified

Implementation 5: Implement policies and program related to Scenic Routes as discussed in the visual character of the area, and the noise environment.

Policy T 3.1.3: City roadway-to-roadway grade separations shall ordinarily not be allowed in historic areas, community commercial centers and residential areas. All grade separations shall be treated with sensitivity to the pedestrian environment, the visual character of the area, and the noise environment.

Implementation 1: Grade separations shall be evaluated for their impacts on the visual character of an area. Facilities for pedestrian and bicyclists shall be incorporated whenever feasible in roadway to roadway grade separated facilities.

3.1.2. Parks and Recreation Chapter

In addition to the bicycle-related goals, policies, and implementation actions identified in the Transportation Chapter, the Parks and Recreation Chapter (Chapter 11) of the General Plan identifies a variety of standards and guidelines that are relevant to this bicycle plan. Specifically, Table 11-2 describes citywide parks standards and guidelines, and includes the following under “Recreational Facilities Guidelines”:

Provide facilities as needed to support the park functions, such as:

- Bicycle parking

Recommendations for bicycle parking are discussed in more detail in Section 3.7, below, in **Chapter 5, Recommended Bikeway System and Improvements**, and in **Appendix A: Bikeway Planning and Design**.

3.2. RELEVANT BICYCLE PLANS

3.2.1. City of Fremont Bicycle and Pedestrian Plan (2002)

The City of Fremont adopted a Bicycle and Pedestrian Plan in 2002. The existing Plan was prepared by city staff to meet 2000 Measure B sales tax funding requirements. The Plan provides recommendations on safe and accessible routes both within and outside the city, and serves as an instrumental guide in obtaining bicycle and pedestrian funding and grants. The plan incorporates design standards developed by the City, State, and Federal governments as well as provides updates on the City’s existing and proposed bicycle and pedestrian facilities. It expands on several of the goals and objectives set forth in the Alameda Countywide Bicycle Plan and allow for a concentrated overview of bicycle and pedestrian related issues as they pertain to the city of Fremont. This Bicycle Master Plan builds upon the existing 2002 plan with a focus on bicycle facilities.

3.2.1.1. Bicycle and Pedestrian Plan Goals and Objectives

The goals and objectives of the 2002 bicycle and pedestrian plan include the following. (Note that a set of updated goals and objectives for this Bicycle Master Plan, building upon those below, are provided in Chapter 1.)

- Provide bicyclists and pedestrians safe and accessible routes to all destinations within the City and outside the City, which are served by public roads, trails, transit and rail.
- Promote bicycle and pedestrian safety by providing traffic safety information and offering effective education programs to the public.
- Complete bicycle and pedestrian facilities by closing existing gaps of planned bikeways and walkways and providing projects that improve intermodal connections for bicyclists and pedestrians.
- Include bicycle/pedestrian facilities in all city transportation projects where feasible and appropriate.
- Maintain existing bicycle and pedestrian facilities.
- Encourage installation of bicycle parking at employment sites, schools, shopping centers, rail/transit stations, parks, recreation facilities and City facilities.
- Promote accessibility and mobility for special needs people such as the elderly and the disabled by providing facilities that will assist them in their transportation needs.
- Develop and update biannually a bicycle and pedestrian projects list which satisfies the City's bicycle and pedestrian goals and objectives.
- Design and constructions of bicycle and pedestrian facilities will conform to the guidelines and standards of the City of Fremont, Alameda County, Metropolitan Transportation Commission (Regional), State and Federal Standards.
- Development of the City's bikeway/walkway network will be integrated with outside agencies bikeway/walkway network. Develop a north-south and east-west bicycle corridor within the City roadway network in keeping with the City's commute pattern.
- Continue to identify and apply for public funding sources to finance bicycle/pedestrian facilities, education and safety programs.

3.2.1.2. Facilities of Regional Significance

The 2002 Bicycle and Pedestrian plan notes several facilities that are significant to the regional network, including:

1. Bay Trail: Senate Bill 100 (SB 100), passed into law in 1989, requires the nine Bay area counties to make efforts to connect their existing trail to the Bay Trail. The Association of Bay Area Governments currently oversees the implementation plan for the approximately 400-mile cross-county trail.

The Bay Trail is a combination of bikeway and walkway west of Cushing Boulevard.

2. Bay Area Ridge Trail: This is a signed, unpaved multiuse trail for horse, hikers and bicyclists located in the Mission Peak area. There are several connections to the Trail from existing and proposed bicycle system. Portions of the Bay Area Ridge Trail overlap the Mission Peak Trail. The Trail is governed by the non-profit organization, the Bay Area Ridge Trail Council.
3. Niles Canyon Road (SR-84): This proposed Alameda County Bike Route leads to several historical landmarks in the Niles Planning Area and along Niles Canyon Road (Scenic Highway Corridor) and provides a link to the Bay Area Ridge Trail.
4. I-680 Freeway, east of Mission Boulevard: This proposed County Bike Route leads to Sunol Valley and the Mission Peak Regional Preserve. It also provides a link to the Bay Area Ridge Trail.
5. Juan Bautista De Anza National Trail: A segment of this historic trail lies in Fremont from the south on Warm Springs Boulevard and then continuing on Mission Boulevard.

3.2.1.3. Bicycle Projects List

An essential element of the 2002 Bicycle and Pedestrian Plan was development of a bicycle and pedestrian projects list which satisfies the City's bicycle and pedestrian goals and objectives. This list is intended to be updated biannually. In preparing the list, the City attempted to balance allocation of funds for bicycle and pedestrian projects. The projects on the list consist of projects suggested by the public, the Bicycle and Pedestrian Technical Advisory Committee (BPTAC) and the staff. The BPTAC consists of five Fremont Residents and is advisory to City staff. The projects on the list were initially selected and prioritized by staff and the BPTAC. Projects on the list were prioritized according to the following key aspects:

- The project will improve safety, accessibility and connectivity.
- The project is identified on a high demand route or potential for increased demand.
- The project is identified in the City, County and Regional Bicycle/Pedestrian Plans.
- Project readiness will be considered. Proposed projects must satisfy grant funding construction schedule completion requirements.

Following selection and prioritization of potential projects by staff and the BPTAC, the projects were presented to the Bicycle Advisory Committee (BAC) for their review and approval. The City's Recreation Commission is the City's Bicycle Advisory Committee. Following review and approval by the BAC, they were presented to the City Council for final review and approval.

The project list from the 2002 Plan is provided in **Table 3-2**. The projects on the list are projects that satisfy the goals and objectives of this plan and integrate Regional and County bikeway networks with the City's bikeway network. The list includes the construction of bicycle facilities with new City roadway improvement projects to complete gaps in the city's bikeway network. It consists of projects to widen roadways and accommodate bicycle travel. The projects list includes installation of bicycle parking facilities at various locations throughout the City. The list also includes projects to modify signalized intersections in order to improve safety and travel through the intersection. The status of the project as of September 2004 is provided in the right hand column.

This current Bicycle Master Plan effort provides an updated bicycle projects list in **Chapter 5**.

**Table 3-2
Potential Bicycle/Pedestrian Projects Identified in 2002 Plan**

| Project Name | Description/Purpose | Status of Project |
|--|--|--|
| Bicycle Parking Facilities. | Install bicycle lockers and racks at various activity centers throughout the City. | Optional to install new bicycle parking facilities for new developments. No capitol improvement projects planned for the installation of bicycle parking. |
| Bryant Street Sidewalk Improvements. | Portions of Bryant and Cedar Street do not have sidewalk, curb & gutter, and driveway. There is an elementary school located on Bryant Street and residents are worried that the area is not safe for children walking to and from MSJ elementary school because they are forced to walk in the street. | Bryant Street Sidewalk Improvement, project account PWC 8487 is under design. Project is funded by Measure B Bike/Ped funds. |
| Central Avenue bike lane/bike route from Blacow Rd. to Farwell Dr. | Installation of bike lane/bike route signs will be in conformance to the City's General Plan. | Currently, no project is planned to install bicycle lanes or bicycle routes on this section of Central Avenue. BPTAC members believe this is a low priority project. |
| Civic Center Dr. bike lane/bike route from Mowry Avenue to Stevenson Blvd. | Installation of bike lane/bike route signs will be in conformance to the City's General Plan. | Currently, no project is planned to install bicycle lanes or bicycle routes on this section of Civic Center. BPTAC members believe this is a low priority project. |
| Cushing Parkway Sidewalk Widening, Westerly of Fremont Boulevard. | As part of a widening project on Cushing Parkway westerly of Fremont Boulevard, the City will be installing sidewalks along the southerly side of Cushing Parkway, bike lanes in each direction. This sidewalk is along the Bay Trail route and as such is being widened to 10 feet from 5 to conform to the trail's requirements. | This project has been completed. Project was completed as part of a Capitol Improvement Project titled Cushing Pkwy Widening-Fremont to Pacific commons, PWC 8423. |
| East Warren Ave. Sidewalk Construction (S. Side) between 400' east of Navajo Rd. to Yakima Dr. (1,500' in length). | Requested by a Fremont resident. The proposed sidewalk will provide for a pedestrian pathway from a neighborhood to a shopping center west of Rt. 680. | E. Warren Avenue Sidewalk Improvement project is scheduled to begin in 2010. Project is funded by Measure B Bike/Ped funds. |
| Farwell Dr. to Lemke Pl., Pedestrian/Bicycle Path Improvements | Reconstruct pedestrian/bicycle trail in greenbelt area between a residential development and Kennedy High School. | Project defunded due to City cutbacks. Installations planned in the future. |

3. Planning and Policy Context

| Project Name | Description/Purpose | Status of Project |
|--|---|---|
| Fremont Blvd. bike lane/bike route between Central Ave. and Thornton Avenue. | Installation of bike lane/bike route signs will be in conformance to the City's General Plan. | Currently, no bicycle lane planned. |
| Fremont Blvd. bike route/bike lane between Beard Street and Thornton Avenue and from Central Avenue to Mowry Avenue. | Installation of bike route signs will be in conformance to the City's General Plan. | Bicycle Lanes are planned as part of the TFCA grant funds received by the City. Project is under design and going through public review process. |
| Fremont Boulevard Widening, between Irvington Avenue and Blacow Road. | As part of the street widening project on Fremont Boulevard between Irvington Avenue and Blacow Road, the City will install bike lane/bike route signs. | Project is under construction, estimated date of completion is 12/04. Bicycle lanes installed on Fremont Blvd. from Adams to Blacow. |
| Gomes-Central Park Pedestrian Path and Railroad Crossings | The project will construct a pedestrian and bicycle path from Gomes Park to Central Park. The path will include 1 at-grade railroad crossings with signals. | Project funded by Measure B funds. Project on hold and design expected to begin in 2006. |
| Grade separation improvements. | Bicycle/Pedestrian facility improvements at grade separation project locations. | Currently no projects planned. |
| In-Roadway Warning Lights at crosswalk locations. | Staff is evaluating the intersection of Peralta Blvd. and Acacia Street and other locations for the installation of "In-Roadway Warning Lights" at crosswalk locations. Lights embedded in the roadway will warn motorists of pedestrians crossing. | Project cancelled. Staff does not support the use of these devices. |
| Intersection Ramps/ADA Improvements. | Construct ramps at various locations throughout the City in order to provide accessibility and connectivity within the public right-of-way to adjacent developments. | Sidewalk ramps installed in 2002 as part of TDA Article 3 funded projects. Installations planned in the future, project is considered a medium priority projects. |
| Kato Road Widening, between Warren Avenue and Milmont Drive. | As part of the road widening project on Kato Road, between Warren Avenue and Milmont Drive, the City will install bike lanes. | Project defunded in 2003 due to City cutbacks. Construction was originally scheduled to begin in 2003-04 fiscal year. |
| Kato Rd. Sidewalk Improvement, from Warm Springs Blvd. to a point 3000' west. | Sidewalk construction requested by a manufacturing company. Sidewalk construction would provide sidewalk connection to adjacent developments along Kato Rd. | Currently no project is planned. This project is low priority. |

3. Planning and Policy Context

| Project Name | Description/Purpose | Status of Project |
|---|---|--|
| Maintenance of existing bicycle and pedestrian facilities. | Maintenance of existing bike/pedestrian facilities will include restriping, replacement of missing or damaged signs, trimming of plants, pavement repair, traffic signal repair of bicycle and pedestrian devices. | 2004-05 TDA Article 3 grant funded project to restripe existing bicycle lanes and to update existing bicycle signing at various street sections throughout the City. Project is estimated at \$121,000 |
| Mowry Avenue bike lane/bike route, between Mission Blvd. and Blacow Rd. | Installation of bike lane/bike route signs to fill gaps on Mowry Avenue between Blacow Rd. and Mission Blvd. Proposed project is in conformance to the City's General Plan. | Currently, no restriping project planned. Project can be evaluated as part of the Bicycle Master Plan Project. |
| Osgood Road Street Improvements, between South Grimmer Boulevard and Washington Boulevard. | As part of the street improvements project on Osgood Road between South Grimmer and Washington Boulevard, the City will be installing bike lanes and sidewalks on each side, 4 veh. Lanes and a 2-way left-turn lane. | Project under review by Caltrans, construction estimated to begin June 2006. |
| Paseo Padre Parkway bike lane/bike route, from Washington Blvd. to Driscoll Rd. | Installation of bike lane/route signs will be in conformance to the City's General Plan. | Currently, no plans for a project. BPTAC considers this a low priority project and it would be difficult to remove on street residential parking to accommodate new bike lane. |
| Paseo Padre Parkway Bike Route signs near Grimmer. | SB Paseo Padre Parkway near Grimmer is signed bike route but NB has no bike route signs. Installation of bike route signs will be in conformance to the City's General Plan. | Project will be incorporated in the 2004-05 TDA Article 3 grant funded project to restripe existing bicycle lanes and to update existing bicycle signing. Project cost s estimated at \$121,000 |
| Paseo Padre Parkway vehicle lane and bicycle lane restriping project from Decoto Road to Thornton Avenue. | Modify bicycle lanes along Paseo Padre in order to provide for wider bike lanes. | Project currently in design, estimated completion of project is October 2005. |
| Pedestrian/Bicycle Trail from Von Euw Common (Pvt. St.) to Alameda Creek Trail. | Public idea to pave pedestrian/bicycle trail from Von Euw Common to the Alameda Creek Trail. | Currently, no plans for a project. Project would require obtaining easements or right of way from East Bay Regional Park, UPRR and private property owner. |
| Sidewalk Construction | Provide sidewalk connections to activity centers, transit and rail stops. | Project locations need to be identified. |
| Sidewalk Repair Program. | The City has a concrete repair program to replace or repair damaged or lifted sidewalks. The program currently has insufficient funds to finance repair or replacement of all locations in the City. | No projects planned. |

3. Planning and Policy Context

| Project Name | Description/Purpose | Status of Project |
|--|---|---|
| Stevenson Boulevard Widening, between Gallaudet Drive and Mission Boulevard. | As part of the street widening project on Stevenson Boulevard, between Gallaudet Drive and Mission Boulevard, the City will install bike lanes. | Project in construction. Construction to be completed in 2005. |
| Traffic signal improvements and modifications pertaining to bicycle/pedestrian facilities. | Improvement of signalized intersection as it pertains to bicycle and pedestrian operations. Possible projects would be installation of standard pedestrian signals, audible peds, bicycle detection, timing and signal operations evaluation. | Pedestrian standard signal project planned for 2006-08 (funded by Measure B). Traffic Signal bicycle detection project (funded by TDA Article 3 funds). Project design to begin 10/04 and to be completed by 10/05. |
| Warm Springs Blvd. bike route, between Auto Mall Parkway and Reliance Way. | Installation of bike route signs will be in conformance to the City's General Plan & Alameda County Bicycle Plan. | No projects planned. |
| Warm Springs Blvd. bike route signs, from Mission Blvd. to Mission Ct. | SB Warm Springs Blvd. is signed bike route but NB has no bike route signs. Installation of bike route signs will be in conformance to the City's General Plan. | No projects planned. |
| Warm Springs Blvd. Widening, from Corporate Way to South of Brown Rd. | In order to improve access to the proposed Warm Springs BART Station, Warm Springs will be widened. Consider installation of Bike Route signs or bike lane installation as part of the project. | Project will be incorporated in the BART Warm Springs Project or street Capitol Improvement Project. |
| Washington Boulevard Improvements, between Olive Avenue and I-680. | As part of a widening project on Washington Boulevard, the City will be installing bike lanes and sidewalks along the stretch between Olive Avenue and I-680. | Part of the City's Capitol Improvement Project, project currently in construction. Estimated time of completion is in Spring 2005. |
| UPRR corridor between Stevenson Boulevard and the southern city limits, near Kato Road | This trail poses the opportunity to establish a baseline trail that could connect to the Alameda Creek Regional Trail and extend the trail to southern Fremont. | The City of Fremont is investigating grant programs that may fund this study. |
| The Bay Trail Alternative Alignment that includes bicycle lanes and a separate bicycle and pedestrian path along a section of Fremont Boulevard. | An alternative alignment would be closer to the Bay. | As of September 2004, the City of Fremont staff is investigating grant programs to assist in funding this study. |
| A shoulder widening on Fremont Boulevard between Decoto Road and Tamayo Street. | The shoulder area is on the east side of Fremont Boulevard and is within Caltrans right of way and will require an easement. | The City is currently in discussion with Caltrans to determine if they will allow this project within their right of way. |

3. Planning and Policy Context

| Project Name | Description/Purpose | Status of Project |
|--|--|---|
| Development of a bicycle and pedestrian trail on Hetch Hetchy Right of Way, beginning at the Fremont/Milpitas border and ending at Warren Avenue | This project is in accordance with the General Plan. | The City of Fremont is investigating grant programs that may fund this study. |

3.2.2. Alameda Countywide Bicycle Plan

The Alameda Countywide Bicycle Plan, developed by Alameda County Congestion Management Agency, was adopted in 2001 with the following goals:

- Create and maintain an inter-county and intra-county bicycle network that is safe, convenient and continuous.
- Integrate bicycle travel in transportation planning activities and in transportation improvement projects.
- Encourage policies and actions that foster bicycling as a mode of travel.
- Improve bicycle safety through facilities, education and enforcement.
- Maximize the use of public and private resources in establishing the bikeway network.

As part of the plan effort, Alameda County established a Bicycle Task Force to be responsible for overseeing the goals and objectives set forth in the Alameda Countywide Bicycle Plan and producing a list of proposed projects that will create and maintain an inter-county and intra-county bicycle network that is safe, convenient and continuous. The plan includes a designated countywide network of bike paths, lanes and routes, and specific “cross-county corridors.”

Within Fremont, Cross County Bicycle Corridors identified in the Alameda Countywide Plan include:

- San Francisco Bay Trail
- Alameda Creek Trail
- Niles Canyon Road
- I-680 (east of Mission Boulevard)
- Mission Boulevard
- Washington Boulevard
- Warm Springs Boulevard
- Osgood Road

- Grimmer Boulevard
- Paseo Padre Parkway
- Route 80: SR-84, Niles Canyon Road

These identified cross county corridors include both existing and proposed segments. In addition to these routes, the plan also suggests that each jurisdiction invest in bicycle maintenance that include signal detector adjustment, replacement of bike route signs, repainting of bike lane stripes and legends, trimming of shrubbery encroaching on bike lanes or trails, and roadway trail sweeping.

3.2.3. Regional Bicycle Plan for San Francisco Bay Area

The Metropolitan Transportation Commission oversees the Bay Area transportation planning and coordination and prepares the Regional Transportation Plan (RTP). In 2001, MTC produced the Regional Bicycle Plan as a component of the 2001 RTP for the San Francisco Bay Area. The Regional Bicycle Plan represents the sustained efforts of MTC staff, the Plan Oversight Committee, local agencies, advocacy groups, and countless dedicated citizens in the Bay Area. The plan, regional in its focus and scope, is intended to be a resource document for Bay Area town, city, and county planners and advocates. It is based on policies and programs and defers to local decision making about specific routes and facilities.

The Regional Bicycle Plan prioritizes bikeway facilities in terms of their significance to the region. Completion of these facilities will not only strengthen the regional network, it will also benefit local areas, such as Fremont, by providing with a more well-connected regional bicycle network. The following are the regional projects that are identified within the City of Fremont:

- The Southern Alameda County I-880 Corridor, Project #9
- The Alvarado-Niles-Niles Canyon, Project #36
- The Auto Mall Connector Trail (Bay Trail)
- Alameda County Bay Trail

These four trails, while not entirely within the City of Fremont jurisdiction, will benefit the City of Fremont by further connecting the existing trails to the regional network.

3.3. FREMONT ZONING ORDINANCE

The following sections of the Fremont Zoning Ordinance contain language pertaining to bicycles:

Section 3-4100, Definition

For the purpose of this chapter, “bicycle” means any device upon which a person may ride, which is propelled through a system of belts, chains or gears and which

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has wheels at least twenty inches in diameter and a frame size of at least fourteen inches. (Ordinance Number 1518, Section 1, 9-14-82)

Section 3-4101, Mechanical Condition

Any bicycle owned and operated in the city by a resident must conform to the requirements of pertinent provisions of the California Vehicle Code as to its safe condition and other specified requirements relating to warning devices such as reflectors. (Ordinance Number 1518, Section 9-14-82)

Section 3-4102, Operation of Bicycles

It shall be unlawful for any person to ride or operate a bicycle in the City of Fremont in Violation of any of the rules of the road as set forth below and as contained in the city and state (California Vehicle Code) traffic laws. (Ordinance Number 1518, Section 1, 9-14-82)

Section 3-4103, Riding on Sidewalks

No person shall ride or operate a bicycle on any sidewalk in the city except as herein specifically. Juveniles under the age of sixteen years, exercising due care and giving the pedestrians the right-of-way, may ride and operate their bicycle upon the sidewalk, except such sidewalks as are in front of schools, stores or building used for business purposes. Persons riding bicycles on sidewalks shall do so in single file. (Ordinance Number 1518, Section 1, 9-14-82)

Section 8-22010, Credit for bicycle and motorcycle parking in commercial and industrial zones

Where bicycle spaces or motorcycle spaces are provided for uses in commercial and industrial districts, parking spaces otherwise required pursuant to section 8-22003 may be omitted in accordance with the following provisions and subject to the following limitations:

- (a) One parking space may be omitted for each eight bicycle spaces provided.
- (b) One parking space may be omitted for each two motorcycle spaces provided
- (c) Bicycle spaces shall measure at least two feet by seven feet and shall be located in groups of four and equipped with locking devices for each bicycle. Bicycle spaces shall be located where access to such spaces is not hampered by physical barriers or parked vehicles.
- (d) Motorcycle spaces shall measure four feet by eight feet and shall be provided with adequate unobstructed maneuvering areas to permit easy access to the space.
- (e) In no instance shall credit for motorcycle or bicycle parking or combination thereof exceed five percent of the total required parking spaces.

3.4. ADVISORY COMMITTEES

3.4.1. Recreation Commission/Bicycle Advisory Committee

The City of Fremont Recreation Commission serves as the formal Bicycle Advisory Committee (BAC) for Fremont. The commission meets and holds work sessions and town meetings as needed. Their role is to review, select and prioritize potential Transportation Development Act (TDA) Article 3 funded projects and to review and approve the City's Bicycle Plan. The BAC meets the TDA bicycle advisory committee requirements established by the Metropolitan Transportation Commission.

3.4.2. Bicycle and Pedestrian Technical Advisory Committee

The Bicycle and Pedestrian Technical Advisory Committee (BPTAC) is an advisory committee on matters pertaining to bicycle and pedestrian issues. They meet on an as needed basis or the third Wednesday of each month and are advisory to staff in the Traffic and Transportation Engineering Section on pertinent bicycle and pedestrian issues.

3.5. MAINTENANCE OF BIKEWAYS

The City provides various services to maintain the City's roadway/bikeway network. The City of Fremont has a street sweeping program and street resurfacing and pavement repair program to keep roadways clear of debris and to keep the pavement surface in good condition. The City's signing and striping crews replace missing signs; trim tree limbs obstructing signs and/or re-stripe faded traffic striping and legends. The City's traffic signal maintenance provides preventative maintenance and regular monitoring of traffic signal operations help bicyclists cross signalized intersections safely.

3.6. BIKEWAY DESIGN GUIDELINES

The City of Fremont follows the Caltrans bicycle design standards as set forth in the Chapter 1000 of the Highway Design Manual, the Manual on Uniform Traffic Control Devices (MUTCD) 2003 and 2003 MUTCD California Supplement. These design standards provide signing and striping details for roadways, trail and intersections. All City bikeways should conform to these standards. In addition, for design issues or planning issues not addressed in the Caltrans Standards or General Plan, City staff would refer to other design guidelines or standards, this would include publications such as the County and Regional Bicycle Plans and Institute of Transportation Engineers recommended practices.

As part of this Bicycle Master Plan, design guidelines for a number of Fremont's specific bicycle facility needs have been developed, such as bike lanes approaching freeway ramps or right turn islands. These design guidelines are located in **Appendix A: Bikeway Planning and Design**, of this plan.

3.7. BICYCLE PARKING

Current City of Fremont zoning codes do not require the installation of bicycle parking facilities for new developments. City zoning code gives credit towards vehicle parking requirements if bicycle parking is installed. Standard practice by City staff is to encourage installation of bicycle parking for major developments.

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Although there is no mandatory policy regarding the installation of bicycle parking racks, the City of Fremont's recommendations for the installation of bicycle racks are consistent with the Association of Pedestrian and Bicycle Professionals' (APBP) *Bicycle Parking Guidelines*. Recommended standards regarding the number of bicycle parking spaces required per land use and type of bicycle parking facilities and other bicycle parking issues not addressed in the City Code or State Standards are referred to the Alameda County Bicycle Plan's Guidelines for Bicycle Parking.

4. NEEDS ANALYSIS

This chapter reviews the relationship between bicycle use, commute patterns, demographics, and land use in the City of Fremont. It identifies major activity centers and public facilities where bicyclists may be destined, along with the needs of recreational and commuter bicyclists. A review of the needs of each bicycle user group will help guide the type and routing of the bikeway system.

One of the primary reasons for creating the Bicycle Master Plan is to maximize the number of bicycle commuters in order to help achieve transportation goals such as minimizing traffic congestion and air pollution. In order to set the framework for these benefits, local and national statistics are used as a basis for determining the benefits of an improved and expanded bikeway network for Fremont. The national and local statistics are based on the 2000 U.S. Census.

4.1. LAND USE AND DEMAND

The concept of “demand” for bicycle facilities can be difficult to comprehend. Unlike automobile use, where historical trip generation studies and traffic counts for different types of land uses permits an estimate of future “demand” for travel, bicycle trip generation methods are less advanced and standardized in the United States. Land use patterns can help predict demand and are important to bikeway planning because changes in land use (and particularly employment areas) will affect average commute distance, which in turn affects the attractiveness of bicycling as a commute mode. The Fremont bikeway network will connect the neighborhoods where people live to the places they work, shop, recreate, or go to school. An emphasis will be placed on regional bikeway and transit connections centered around the major activity centers in Fremont, including:

- Major employment centers
- Civic buildings such as libraries
- Schools
- District centers
- Fremont BART station
- Centerville Amtrak/ACE Train Station
- Neighborhood parks and regional recreational areas

4.2. COMMUTE PATTERNS

A central focus of presenting commute information is to identify the current “mode split” of people that live and work in Fremont. Mode split refers to the choice of transportation a person selects to move to destinations, be it walking, bicycling,

taking a bus, or driving. One major objective of any bicycle facility improvement is to increase the “split” or percentage of people who choose to bike rather than drive or be driven. Every saved vehicle trip or vehicle mile represents quantifiable reductions in air pollution and can help in lessening traffic congestion.

Journey to work and travel time to work data were obtained from the 2000 US Census for Fremont, Alameda County, California, and the United States. Journey to work data are shown in **Table 4-1**.

Table 4-1
Journey to Work Data

| Mode | United States | California | Alameda County | Fremont |
|----------------|----------------------|-------------------|-----------------------|----------------|
| Bicycle | 0.4% | 0.8% | 1.2% | 0.6% |
| Drove Alone | 75.7% | 71.8% | 66.4% | 77.4% |
| Carpool | 12.2% | 14.6% | 13.8% | 12.4% |
| Public Transit | 4.7% | 5.1% | 10.6% | 5.0% |
| Walked | 2.9% | 2.9% | 3.2% | 1.1% |
| Other | 4.1% | 4.8% | 2.5% | 1.4% |

Source: U.S. Census 2000

As shown, about 0.6% of all employed Fremont residents commute primarily by bicycle, which is very similar to the national average of 0.4%, the state average of .8% and about half of the Alameda County average. This figure indicates that Fremont has an average mode split for commuting purposes. It should be noted that the Census data do not give an indication of the number of people who bicycle for recreation or for utilitarian purposes, such as shopping.

Travel time to work is shown in **Table 4-2**. Travel time is important because it can give an indication of the number of potential new bicycle commuters.

It has been suggested that a reasonable commute time, regardless of mode, is about 30 minutes. Assuming that travel occurs primarily on local roads during peak commute periods, a motor vehicle commute time of 15 minutes or less would be equivalent to about a 30 minute bicycle commute on flat terrain. In other words, converting an under-15 minute motor vehicle commute trip to a bicycle commute trips would still result in a reasonable 30 minute commute time. As shown in Table 4-2, about 20% of Fremont residents have a commute time of 15 minutes or less (most of these trips are drive alone, based on the city’s mode split data). While some of these people may be taking transit or walking, based on the fact that 77% of all Fremont residents drive alone to work, it can be assumed that the majority of these short-distance commuters are driving alone to work. Given these data, there is a substantial opportunity to capture some of the short distance (less than 15 minute) motor vehicle commute trips and convert them to bicycle commute trips.

Table 4-2
Travel Time to Work Data

| | United States | California | Alameda County | Fremont |
|----------------------|---------------|------------|----------------|---------|
| Less than 15 minutes | 29.4% | 25.3% | 21% | 20% |
| 15 to 29 minutes | 36.1% | 35.4% | 32% | 28% |
| 30 to 44 minutes | 19.1% | 20.9% | 22% | 25% |
| 45 to 59 minutes | 7.4% | 8.2% | 11% | 14% |
| 60 minutes or more | 8.0% | 10.1% | 14% | 13% |

Source: Census 2000

4.3. TRIP REDUCTION AND POTENTIAL AIR QUALITY BENEFITS

Based on available census data on mode split, a rough projection of future bicycle ridership in Fremont along with the trip reduction and air quality benefits can be made. While these projections are only ambitious estimates, they are important to building a case for investing in bicycle facilities and programs over time. For example, a traffic model is used to project future roadway improvements over time based on a straight-line assumption about auto use, fuel price, and other factors. The projection on bicycle use and benefits differs only in that it forecasts a minor change in modal choice – not travel behavior – based on a combination of empirical and theoretical data. Research conducted throughout the U.S. by the U.S. Department of Transportation shows a definitive link between bicycle use and (a) age and (b) the miles of bicycle facilities provided. It is possible to derive a causal relationship from this information.

Fremont lies within the San Francisco Bay Area Basin which is regulated by the Bay Area Air Quality Management District (BAAQMD). The city is within the South Central Bay District of the Basin. According to the California Air Resources Board, the air quality in the San Francisco Bay Area Basin exceeds the Federal health-based standards for ground-level ozone 35 to 40 days per year, and exceeds the more stringent California standards for ozone more than 100 days per year. The Basin exceeds the Federal standards for airborne particles (PM10) less than five times annually, and exceeds the more stringent California standards for PM10 an average of 90 to 100 days per year. Currently, the Basin is classified as non-attainment for the Federal ground-level ozone and PM10 standards. The Basin is classified as severe non-attainment for the California ozone standard and non-attainment for the California PM10 standard.

According to the BAAQMD, motor vehicles are responsible for approximately 75 percent of the smog in the Bay Area. Reducing vehicle miles traveled (VMTs) is a key goal of the BAAQMD, and fully implementing Fremont's bicycle network will help achieve this goal by providing residents safe and functional ways to get to work, school, or shopping without using a motor vehicle. The current number of daily bicycle commuters in Fremont is estimated to be 3,149 riders, making a total of 6,298 daily trips and saving an estimated 14,823 VMTs per weekday. With implementation of the Bicycle Master Plan network and programs by 2020, it is

estimated that bicycle commuting could increase to 8,777 daily bicycle riders making 17,554 daily trips and saving an approximately 41,313 VMTs per weekday.

Table 4-3 quantifies the estimated reduction in VMTs in Fremont following implementation of the bicycle network, and the estimated reduction in air pollutants based on the best available local and national data. Under these estimates, the proposed bikeway system in Fremont would increase the bicycle mode share of trips from 0.55 percent in 2000 (U.S. Census) to over 1.53 percent by 2020. This would result in an estimated decrease of 760 lbs/day of PM10, 2,999 lbs/day of ROG, and 2,060 lbs/day of NOX.

4.4. BICYCLE SAFETY AND ACCIDENT ANALYSIS

4.4.1. Perceptions of Safety

Safety is a major concern of both existing and potential bicyclists. For those who ride, safety is typically an on-going concern or even a distraction. For those who don't ride, it is one of the most compelling reasons not to ride. In discussing bicycle safety, it is important to separate out perceived dangers versus actual safety hazards.

Bicycle riding on-street is commonly perceived as unsafe because of the exposure of a lightweight, two-wheeled vehicle to heavier and faster moving automobiles, trucks and buses. Actual collision statistics, however, show that bicyclists face only a marginally higher degree of sustaining an injury than a motorist based on numbers of users and miles traveled. Death rates are essentially the same with bicyclists as with motorists. Bicycle-vehicle collisions are much less likely to happen than bicycle-bicycle, bicycle-pedestrian, or collisions caused by physical conditions. The majority of reported bicycle collisions show the bicyclist to be at fault; (due to not obeying basic traffic laws; these often involve younger bicyclists riding on the wrong side of the road or being hit broadside by a vehicle at an intersection or driveway.)

4.4.2. Collision Data

Data for reported bicycle collisions were collected for the calendar years 2000 to 2003 in Fremont, and are presented in **Table 4-4**.

Table 4-3
Bicycle Commute and Air Quality Projections

| Current Commuting Statistics | | Source |
|--|-----------|---|
| Fremont Population | 203,413 | 2000 US Census |
| Number of Employed Persons | 100,215 | 2000 US Census |
| Number of Bicycle-to-Work Commuters | 556 | 2000 US Census |
| Bicycle-to-Work Mode Share | 0.6% | Calculated from above |
| School Children Grades K-8 | 26,876 | 2000 US Census, population ages 6-14 |
| Estimated School Bicycle Commuters | 672 | Calculated based on existing estimates of biking to school |
| Number of College Students | 15,476 | 2000 US Census |
| Estimated College Bicycle Commuters | 309 | 2000 US Census |
| Average Weekday BART Ridership | 5,867 | BART, boardings at BART station |
| Number of Daily Bike-BART Users | 39 | Estimate based on California TOD database Fremont BART access |
| Utilitarian Bicycle Trips | 1,573 | Calculated from above on existing estimates |
| Existing Bicycle Commuters | | |
| Total Number of Bicycle Commuters | 3,149 | Total of bike-to-work, transit, school, college and utilitarian bicycle trips. Does not include recreation. |
| Total Daily Bicycle Trips | 6,298 | Total bicycle commuters \times 2 (for round trips) |
| Reduced Vehicle Trips per Weekday | 4,329 | Assumes 73% of bicycle trips replace vehicle trips for adults/college students and 53% for school children |
| Reduced Vehicle Miles per Weekday | 14,823 | Assumes average round trip travel length of 8 miles for adults/college students and 1 mile for schoolchildren |
| Future Bicycle Commuters | | |
| Number of Future Daily Bicycle Commuters | 8,777 | Estimated using increase to 279% of baseline from 2000 Los Angeles County MTA study |
| Future Bicycle-to-Work Mode Share | 1.53% | Calculated from above |
| Future Total Daily Bicycle Trips | 17,554 | Calculated from above |
| Future Reduced Vehicle Trips per Weekday | 12,065 | Calculated from above |
| Future Reduced Vehicle Miles per Weekday | 41,313 | Calculated from above |
| Future Reduced Vehicle Miles per Year | 1,116,547 | 180 days for students, and 256 days for employed persons |
| Future Air Quality Benefits | | |
| Reduced PM10* (tons/weekday) | 760 | (.0184 tons per reduced mile) |
| Reduced NOX* (tons/weekday) | 2,060 | (.04988 tons per reduced mile) |
| Reduced ROG* (tons/weekday) | 2,999 | (.0726 tons per reduced mile) |
| Reduced PM10 (tons/year) | 20,544 | (.0184 tons per reduced mile) |
| Reduced NOX (tons/year) | 55,693 | (.04988 tons per reduced mile) |
| Reduced ROG (tons/year) | 81,061 | (.0726 tons per reduced mile) |

Sources as noted in the table.

*PM10 = particulate matter, NOX = nitrogen oxides, ROG = reactive organic gases.

4. Needs Analysis

Table 4-4
Summary of Reported Bicycle Collisions in Fremont, 2000-2004

| Street 1 | Street 2 | Primary Collision Factor | Party at Fault | Year |
|-------------------|---------------------|---|----------------|------|
| Central Avenue | Farwell Drive | Wrong Side | Bicycle | 2000 |
| Central Avenue | Logan Drive | Wrong Side | Bicycle | 2000 |
| Chiltern Drive | Driscoll Road | Other Hazard | Bicycle | 2000 |
| Commerce Drive | Mimosa Terrace | Wrong Side | Bicycle | 2000 |
| Crandalwood Drive | Deep Creek Road | N/A | Bicycle | 2000 |
| Davis | Margery Drive | Stop Sign/Signal | Bicycle | 2000 |
| Davis | Stevenson Boulevard | Right of Way Automobile | Bicycle | 2000 |
| Deep Creek Road | Paseo Padre Parkway | Wrong Side | Bicycle | 2000 |
| Dondero Way | Route 84 | Pedestrian Violation | Bicycle | 2000 |
| Dow Court | Pickering Avenue | Wrong Side | Bicycle | 2000 |
| Eggers Drive | Fremont Boulevard | Right of Way Auto | Bicycle | 2000 |
| Ends | Coit Avenue | Impromptu Turn | Bicycle | 2000 |
| Fortner | Lippert Avenue | Wrong Side | Bicycle | 2000 |
| Fremont Boulevard | Bidwell Drive | Impromptu Turn | Driver | 2000 |
| Fremont Boulevard | Blacow Road | Driver under the influence of alcohol and drugs | Bicycle | 2000 |
| Fremont Boulevard | Central Avenue | Right of Way Auto | Driver | 2000 |
| Fremont Boulevard | Cusing Parkway | Impromptu Turn | Driver | 2000 |
| Fremont Boulevard | Decoto Road | Right of Way Auto | Bicycle | 2000 |
| Fremont Boulevard | Decoto Road | N/A | Bicycle | 2000 |
| Fremont Boulevard | Margery Drive | N/A | N/A | 2000 |
| Fremont Boulevard | Montrose Avenue | Wrong Side | N/A | 2000 |
| Fremont Boulevard | Mowry Avenue | Wrong Side | Bicycle | 2000 |
| Fremont Boulevard | Mowry Avenue | Wrong Side | Bicycle | 2000 |
| Fremont Boulevard | Nicolet Drive | Wrong Side | N/A | 2000 |
| Fremont Boulevard | Stevenson Boulevard | Wrong Side | Bicycle | 2000 |
| Fremont Boulevard | Thornton Avenue | Wrong Side | Bicycle | 2000 |
| Fremont Boulevard | Walnut Avenue | Wrong Side | Bicycle | 2000 |
| Grimmer Boulevard | Auto mall Parkway | Wrong Side | Bicycle | 2000 |

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| Street 1 | Street 2 | Primary Collision Factor | Party at Fault | Year |
|---------------------|--------------------------------------|--------------------------|----------------|------|
| Grimmer Boulevard | Auto Mall Parkway Driveway | Lights | Bicycle | 2000 |
| Grimmer Boulevard | Auto Mall Parkway | Not Driver | N/A | 2000 |
| Grimmer Boulevard | Bay | N/A | N/A | 2000 |
| Grimmer Boulevard | Bay | Right of Way Auto | Driver | 2000 |
| Grimmer Boulevard | Blacow Road | Unsafe Speed | Bicycle | 2000 |
| Grimmer Boulevard | Davis | Wrong Side | Bicycle | 2000 |
| Grimmer Boulevard | Irvington Boulevard | Other Hazard | Driver | 2000 |
| Hardwood | Applewood | Right of Way Auto | Bicycle | 2000 |
| Isherwood Drive | Paseo Padre Parkway | Impromptu turn | Bicycle | 2000 |
| Lake Head Drive | Lake Ontario Drive | Other hazard | Bicycle | 2000 |
| Leslie | Bidwell Drive | Right of Way Auto | Bicycle | 2000 |
| Linda Drive | Niles Boulevard | Other Hazard | N/A | 2000 |
| Logan Driver | Eggers Drive | Other Hazard | Bicycle | 2000 |
| Mowry Road | Lark Avenue | Unsafe Speed | Bicycle | 2000 |
| Mission View Drive | Leslie | Other Hazard | Drive | 2000 |
| Montevideo Court | Montevideo Circle | Other Hazard | Bicycle | 2000 |
| Mowry Avenue | Parkside Drive | Right of Way Auto | Driver | 2000 |
| Mowry Avenue | Route 880 Northbound on the off-ramp | Right of Way Auto | Driver | 2000 |
| Mowry Avenue | Route 880 Northbound on the off-ramp | Stop Sign/Signal | N/A | 2000 |
| Mowry Avenue | State | Wrong Side | Bicycle | 2000 |
| Mowry Avenue | Waterside Circle | Wrong Side | Bicycle | 2000 |
| Parkhurst Drive | Walnut Avenue | Wrong Side | Bicycle | 2000 |
| Paseo Padre Parkway | Capitol | Improper Driving | Bicycle | 2000 |
| Paseo Padre Parkway | Fitzgerald | Wrong Side | Bicycle | 2000 |
| Paseo Padre Parkway | Route 84 | Stop Sign/Signal | Bicycle | 2000 |
| Paseo Padre Parkway | Parkmont Drive | Right of Way Auto | Bicycle | 2000 |
| Pawnee Drive | Grimmer Boulevard | N/A | Bicycle | 2000 |
| Peralta Boulevard | Cambridge Court | Wrong Side | Bicycle | 2000 |
| Peralata Boulevard | Redwood Terrace | Improper Passing | Driver | 2000 |
| Robin | Blacow Road | Right of Way Auto | Driver | 2000 |
| RT 880 NB | Mowry Avenue | Wrong Side | Bicycle | 2000 |

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| Street 1 | Street 2 | Primary Collision Factor | Party at Fault | Year |
|---------------------------|---------------------------|---|----------------|------|
| offramp | | | | |
| Starr | Mission Boulevard | Right of Way Auto | Driver | 2000 |
| Stevenson Boulevard | Blacow Road | Wrong Side | Bicycle | 2000 |
| Stevenson Boulevard | Route 880 NB off- ramp | Wrong Side | Bicycle | 2000 |
| Stevenson Boulevard | Sundale Drive | Wrong Side | Bicycle | 2000 |
| Thornton Avenue | Dusterberry Way | Other Hazard | Driver | 2000 |
| Walnut Avenue | Cherry Lane | Driver under the influence of drugs and alcohol | Bicycle | 2000 |
| Walnut Avenue | Lakefront Court | Other Hazard | Bicycle | 2000 |
| Warm Springs Boulevard | Mayten Way | Wrong Side | Bicycle | 2000 |
| Washington Boulevard | Roberts Avenue | Driver under the influence of drugs and alcohol | Bicycle | 2000 |
| Wyndham Drive | Faraday Court | Unsafe speed | Bicycle | 2000 |
| Andante | Butano Park Drive | Unsafe speed | Bicycle | 2001 |
| Auto Mall Parkway | Boyce Road | Wrong Side | Bicycle | 2001 |
| Auto Mall Parkway | Route 880 B Off/R | Lane Change | Driver | 2001 |
| Blackstone Drive | Gordon Place | Wrong Side | Bicycle | 2001 |
| Blacow Road | Grimmer Boulevard | Right of Way Auto | Driver | 2001 |
| Blacow Road | Mattos Court | Wrong Side | Bicycle | 2001 |
| Blacow Road | Roselle CM | Wrong Side | Bicycle | 2001 |
| Blacow Road | Thornton Avenue | Stop Sign/Signal | Bicycle | 2001 |
| Capitol Avenue | State | Wrong Side | Bicycle | 2001 |
| Capitol Avenue | State | Unsafe Speed | Bicycle | 2001 |
| Carol Avenue | Chapel Way | N/A | N/A | 2001 |
| Chapel Way | Fremont Boulevard | Wrong Side | Bicycle | 2001 |
| Coronado Drive | Escala Terrace | Wrong Side | Bicycle | 2001 |
| Davenport | Grimmer | Right of Way | Bicycle | 2001 |
| Decoto Road | Fremont Boulevard | Stop Sign/Signal | Bicycle | 2001 |
| Deep Creek Road | Frederick Lane | Stop Sign/Signal | Bicycle | 2001 |
| Driscoll Road | Harrington | Wrong Side | Bicycle | 2001 |
| Eggers Drive | Corrigan | Right of Way Auto | Driver | 2001 |
| Eggers Drive | Paseo Padre Parkway | Improper Passing | Bicycle | 2001 |
| Enterprise | Grimmer Boulevard | Lights | Bicycle | 2001 |
| Fremont Boulevard | Bidwell Drive | Wrong Side | Bicycle | 2001 |
| Fremont Boulevard | Clough Avenue | Wrong Side | Bicycle | 2001 |
| Fremont Boulevard | Landing Parkway | Unsafe Speed | Bicycle | 2001 |

| Street 1 | Street 2 | Primary Collision Factor | Party at Fault | Year |
|----------------------|---------------------|--------------------------|----------------|------|
| Fremont Boulevard | Peralta | Unsafe Speed | Bicycle | 2001 |
| Fremont Boulevard | Peralta | Wrong Side | Bicycle | 2001 |
| Fremont Boulevard | Peralta | Wrong Side | Bicycle | 2001 |
| Fremont Boulevard | Stevenson Boulevard | N/A | Driver | 2001 |
| Fremont Boulevard | Walnut Avenue | Wrong Side | Bicycle | 2001 |
| Grimmer Boulevard | Blacow Road | Wrong Side | Bicycle | 2001 |
| Hancock Drive | Wolcott Drive | Stop Sign/Signal | Bicycle | 2001 |
| Harrisburg Avenue | Conovan Lane | N/A | N/A | 2001 |
| Liberty | Stevenson Boulevard | Wrong Side | N/A | 2001 |
| Martha Avenue | Paseo Parkway | Right of Way Auto | Bicycle | 2001 |
| Mission Boulevard | Mowry Avenue | Improper Passing | Driver | 2001 |
| Mission Boulevard | Niles Canyon | Improper Turn | Bicycle | 2001 |
| Mission Boulevard | Williams Court | Unsafe Speed | Driver | 2001 |
| Morrison Canyon Road | Mission Boulevard | Unsafe Speed | Bicycle | 2001 |
| Mowry Avenue | Fremont Boulevard | Wrong Side | Bicycle | 2001 |
| Mowry Avenue | Fremont Boulevard | Starting/Backing up | Driver | 2001 |
| Mowry Avenue | Paseo Padre Parkway | Right of Way Auto | Driver | 2001 |
| Mowry Avenue | I-880 NBOFF/R | Wrong Side | Bicycle | 2001 |
| Mowry Avenue | I-880 NBOFF/R | Wrong Side | Bicycle | 2001 |
| Osgood Road | Grimmer | Impromptu Turn | Bicycle | 2001 |
| Osgood | Seldon Court | Other hazard | Driver | 2001 |
| Paseo Padre Parkway | Peralta Boulevard | Stop Sign/Signal | Bicycle | 2001 |
| Paseo Padre Parkway | Riverwalk Drive | Wrong Side | Bicycle | 2001 |
| Paseo Padre Parkway | Stevenson Boulevard | Wrong Side | Bicycle | 2001 |
| Paseo Padre Parkway | Thornton Avenue | Other Side | Bicycle | 2001 |
| Peralta Boulevard | Shinn | Wrong Side | Bicycle | 2001 |
| I-880 | Auto Mall Parkway | Other Hazards | Bicycle | 2001 |
| I-880 | Stevenson Boulevard | Other Hazards | Driver | 2001 |
| Stevenson Boulevard | Besco Drive | Right of Way Auto | Driver | 2001 |
| Stevenson Boulevard | Besco Drive | N/A | N/A | 2001 |
| Stevenson Boulevard | Lindsay McDermott | Wrong Side | Bicycle | 2001 |
| Stevenson | Stevenson | Wrong Side | Bicycle | 2001 |

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| Street 1 | Street 2 | Primary Collision Factor | Party at Fault | Year |
|---------------------------|------------------------|--------------------------------------|----------------|------|
| Boulevard | Common | | | |
| Stonebridge Drive | Terrace Drive | Right of Way Auto | Bicycle | 2001 |
| Warm Springs Boulevard | Tonopah Drive | Right of Way | Driver | 2001 |
| Fremont Boulevard | Peralta Boulevard | Wrong Side of Road | Bicycle | 2002 |
| Blacow Road | Royal Palm Drive | Auto Right of Way Violation | Driver | 2002 |
| Blacow Road | Omar Street | Traffic Signals and Signs | Driver | 2002 |
| Peralta Boulevard | Parish Avenue | Wrong Side of Road | Bicycle | 2002 |
| Stevenson Boulevard | Davis Street | Other Hazardous Movement | Bicycle | 2002 |
| Grimmer Boulevard | High Street | Auto Right of Way Violation | Bicycle | 2002 |
| Grand Lake Drive | Lake Barlee Lane | Improper Turning | Bicycle | 2002 |
| Beard Road | Milton Street | Other Hazardous Movement | Bicycle | 2002 |
| Fremont Boulevard | Doane Street | Auto Right of Way Violation | Bicycle | 2002 |
| Driscoll Road | Chiltern Drive | Wrong Side of Road | Bicycle | 2002 |
| Martha Avenue | Paseo Padre Parkway | Auto Right of Way Violation | Driver | 2002 |
| Bay Street | Grimmer Boulevard | Wrong Side of Road | Bicycle | 2002 |
| Stevenson Boulevard | Besco Drive | Pedestrian Right of Way Violation | Pedestrian | 2002 |
| Stevenson Boulevard | Civic Center Drive | Wrong Side of Road | Bicycle | 2002 |
| High Street | Grimmer Boulevard | Wrong Side of Road | Bicycle | 2002 |
| Warm Springs Boulevard | Warren Avenue | Pedestrian Violation | Bicycle | 2002 |
| Eugene Street | Citrus Drive | Wrong Side of Road | Bicycle | 2002 |
| Fremont Boulevard | Peralta Boulevard | Wrong Side of Road | Bicycle | 2002 |
| Fremont Boulevard | Mowry Avenue | Wrong Side of Road | Bicycle | 2002 |
| Fremont Boulevard | Stevenson Boulevard | Wrong Side of Road | Bicycle | 2002 |
| Stevenson Boulevard | Fremont Boulevard | Wrong Side of Road | Bicycle | 2002 |
| Gallaudet Drive | Stevenson Boulevard | Auto Right of Way | Bicycle | 2002 |
| Central Avenue | Centralmont Place | Unsafe Speed | Bicycle | 2002 |
| Peralta Boulevard | Maple Street | Wrong Side of Road | Bicycle | 2002 |
| Newport Drive | Independence Road | Auto Right of Way Violation | Bicycle | 2002 |
| Paseo Padre | Eggers Drive | Wrong Side of | Bicycle | 2002 |

4. Needs Analysis

| Street 1 | Street 2 | Primary Collision Factor | Party at Fault | Year |
|------------------------|------------------------|-----------------------------|----------------|------|
| Parkway | | Road | | |
| Mowry Avenue | Blacow Road | Improper Turning | Driver | 2002 |
| Decolo Road | Fremont Boulevard | Wrong Side of Road | Bicycle | 2002 |
| Paseo Padre Parkway | Mowry Avenue | Driving Under Influence | Bicycle | 2002 |
| Liberty Street | Beacon Avenue | Auto Right of Way Violation | Driver | 2002 |
| Fremont Boulevard | Walnut Avenue | Unsafe Speed | Bicycle | 2002 |
| Niles Boulevard | Linda Drive | Improper Passing | Driver | 2002 |
| Gallegos Avenue | Washington Common | Auto R/W violation | Driver | 2002 |
| Blanchard Street | Bullard Street | Other Hazardous Movement | Bicycle | 2002 |
| Mowry Avenue | Fremont Boulevard | Traffic Signals and Signs | Bicycle | 2002 |
| Stevenson Boulevard | Blacow Road | Traffic Signals and Signs | Bicycle | 2002 |
| Fremont Boulevard | I-880 North | Wrong Side of Road | Bicycle | 2002 |
| Mission Boulevard | Warm Springs Boulevard | Ped R/W Violation | Pedestrian | 2002 |
| Fremont Boulevard | Staneley Avenue | Wrong Side of Road | Bicycle | 2002 |
| Eggers Drive | Logan Drive | Traffic Signals and Signs | Bicycle | 2002 |
| Decoto Road | Brookmill Drive | Improper Turning | Bicycle | 2002 |
| Rancho Arroyo Parkway | Riviera Drive | Auto R/W Violation | Bicycle | 2002 |
| Grimmer Boulevard | Bay Street | Wrong Side of Road | Bicycle | 2002 |
| Arden Common | Paseo Padre Parkway | Wrong Side of Road | Bicycle | 2002 |
| Fremont Boulevard | Power Pole 3226 | Wrong Side of Road | Bicycle | 2002 |
| Mission Boulevard | Rancho Arroyo Parkway | Unsafe Lane Change | Driver | 2002 |
| Warm Springs Boulevard | Pontiac Way | Auto Right of Way Violation | Driver | 2002 |
| Panton Terrace | Sequoia Terrace | Other Improper Driving | Driver | 2002 |
| Fremont Boulevard | Chapel Way | Other hazardous movement | Bicycle | 2002 |
| Central Avenue | Dusterberry Way | Improper Turning | Bicycle | 2002 |
| Fremont Boulevard | Mattos Drive | Other Hazardous Movement | Bicycle | 2002 |
| Paseo Padre Parkway | Sylvester Drive | Auto Right of Way Violation | Bicycle | 2002 |
| Mowry Avenue | Farwell Drive | Wrong Side of Road | Bicycle | 2002 |
| Davis Street | Ogden Drive | Wrong Side of Road | Bicycle | 2002 |
| Davis Street | Stevenson | Unsafe Starting or | Bicycle | 2002 |

4. Needs Analysis

| Street 1 | Street 2 | Primary Collision Factor | Party at Fault | Year |
|---------------------|----------------------|-----------------------------|----------------|------|
| | Boulevard | Backing | | |
| Fremont Boulevard | Country Drive | Wrong Side of Road | Bicycle | 2002 |
| Margery Drive | Davis Street | Auto R/W Violation | Bicycle | 2002 |
| Paseo Padre Parkway | Walnut Avenue | Other Hazardous Movement | Bicycle | 2003 |
| Stevenson Boulevard | Blacow Road | Auto R/W Violation | Bicycle | 2003 |
| Margery Drive | Blewett Street | Unsafe Speed | Bicycle | 2003 |
| Fremont Boulevard | I-880 | Wrong Side of Road | Bicycle | 2003 |
| Fremont Boulevard | Blacow Road | Improper Turning | Bicycle | 2003 |
| Fremont Boulevard | Stevenson Boulevard | Auto R/W Violation | Bicycle | 2003 |
| Mowry Avenue | Fremont Boulevard | Traffic Signals and Signs | Bicycle | 2003 |
| Fremont Boulevard | Nicolet Avenue | Auto R/W | Bicycle | 2003 |
| Dolerita Avenue | Las Palmas Avenue | Wrong Side of Road | Bicycle | 2003 |
| Farwell Drive | Eggers Drive | Other Hazardous Movement | Bicycle | 2003 |
| Boone Drive | Blacow Road | Unsafe Starting or Backing | Bicycle | 2003 |
| Mowry Avenue | Argonaut Way | Wrong Side of Road | Bicycle | 2003 |
| I-680 | Mission Boulevard | Auto Right of Way Violation | Driver | 2003 |
| Rt. 238 | Orchard Drive | Wrong Side of Road | Bicycle | 2003 |
| Eggers Drive | Glenview Drive | Unsafe Speed | Bicycle | 2003 |
| Mowry Avenue | Lexington Street | Auto R/W Violation | Bicycle | 2003 |
| Cabrillo Drive | Diaz Drive | Traffic Signals and Sign | Bicycle | 2003 |
| Auto Mall Parkway | I-880 | Auto R/W violation | Driver | 2003 |
| Roberts Avenue | Washington Boulevard | Wrong Side of Road | Bicycle | 2003 |
| Paseo Padre Parkway | Isherwood Way | Unsafe Lane Change | Bicycle | 2003 |
| Fremont Boulevard | Eggers Drive | Wrong side of road | Bicycle | 2003 |
| Logan Drive | Central Avenue | Traffic Signals | Bicycle | 2003 |
| Fremont Boulevard | Thornton Avenue | Auto Right of Way Violation | Bicycle | 2003 |
| Fremont Boulevard | Mowry Avenue | Wrong Side of Road | Bicycle | 2003 |
| Paseo Padre Parkway | Country Drive | Wrong Side of Road | Bicycle | 2003 |
| Stevenson Boulevard | Farwell Drive | Auto Right of Way Violation | Bicycle | 2003 |

| Street 1 | Street 2 | Primary Collision Factor | Party at Fault | Year |
|------------------------|---------------------|-----------------------------|----------------|------|
| Blacow Road | Sherwood Street | Wrong Side of Road | Bicycle | 2003 |
| Delaware Street | Charleston Way | Auto Right of Way Violation | Bicycle | 2003 |
| McDuff Avenue | Masters Court | Auto Right of Way Violation | Bicycle | 2003 |
| Fremont Boulevard | Chapel Way | Wrong Side of Road | Bicycle | 2003 |
| Paseo Padre Parkway | Kaiser Drive | Other | Bicycle | 2003 |
| Warm Springs Boulevard | Warren Avenue | Auto Right of Way Violation | Bicycle | 2003 |
| Alvarado Boulevard | Lowry Road | Pedestrian Violation | Pedestrian | 2003 |
| County Road | Paseo Padre Parkway | Wrong Side of Road | Bicycle | 2003 |
| Argonaut Way | Parkhurst Drive | Wrong Side of Road | Bicycle | 2003 |
| Chapel Way | Fremont Boulevard | Wrong Side of Road | Bicycle | 2003 |
| Mowry Avenue | Fremont Boulevard | Wrong Side of Road | Bicycle | 2003 |
| Paseo Padre Parkway | Grimmer Boulevard | Traffic Signals and Signs | Bicycle | 2003 |
| Camden Street | Eggers Drive | Wrong Side of Road | Bicycle | 2003 |
| Fremont Boulevard | Crestwood Street | Wrong Side of Road | Bicycle | 2003 |
| Fremont Boulevard | Sundale Drive | Wrong Side of Road | Bicycle | 2003 |

Source: City of Fremont, August 2004

As shown, there were 245 bicycle-related collisions reported in Fremont from 2000 to 2003. The collision locations are spread throughout Fremont, although certain locations recorded higher than average accident rates. Of the motor vehicle versus pedestrian collisions in Fremont between 2000 and 2003, twenty percent (20%) occurred along Fremont Boulevard. Accidents involving bicycles were also concentrated along Mowry (10%), Paseo Padre (8%) and Grimmer (7%). The 2000-2003 accidents were caused by numerous factors, although thirty six percent (36%) were attributable to bicyclists riding the wrong direction on the street.

The Fremont Police Department enforces all traffic laws, for bicycles and motor vehicles as part of their regular duties. Violations may include bicyclists who break traffic laws, as well as motorists who disobey traffic laws and make the cycling environment more dangerous. The level of enforcement depends on the availability of officers. The Police Department also responds to particular needs and problems as they arise. In addition, an important function of the police department is filing reports for accidents involving bicyclists. The Police Department should continue to keep a record, accessible to Transportation Engineering, on where, when and how collisions between bicyclists and cars and bicyclists and pedestrians occur. For the City's bicycle planning effort, Transportation Engineering should continue to

review and monitor bicycle and pedestrian accident data to improve safety through the bicycle network.

4.5. BICYCLIST NEEDS

The purpose of reviewing the needs of bicyclists is twofold: (a) it is instrumental when planning a system that must serve both commuter and recreational user groups; and (b) it is useful when attempting to quantify future usage and benefits to justify expenditures of resources. According to a nationwide 1991 Lou Harris Poll, it was reported that “...nearly 3 million adults (about one in 60) already commute by bike, and projected the number could rise to 35 million if more bicycle friendly transportation systems existed.” In short, there is a large reservoir of potential bicyclists who do not ride (or ride more often) simply because they do not feel comfortable using the existing street system and/or don’t have appropriate bicycle facilities at their destination.

Key general observations about bicycling needs in Fremont include:

- Bicyclists are typically categorized as experienced or casual riders. The U.S. Department of Transportation identifies thresholds of traffic volumes, speeds, and curb lanes where less experienced bicyclists begin to feel uncomfortable. For example, on an arterial with traffic moving between 30 and 40 miles per hour, less experienced bicyclists prefer bike lanes while more experienced bicyclists can comfortably use streets with wide curb lanes.
- Casual riders include those who feel less comfortable negotiating traffic. Others such as children and the elderly may have difficulty gauging traffic, responding to changing conditions, or moving rapidly enough to clear intersections.
- Casual riders may perceive riding on sidewalks as being a safer alternative than bicycling on-street on major roads, when in fact sidewalk riding is inherently more dangerous due to the fact that most motorists aren’t expecting a bicyclist to emerge from the sidewalk at the many driveways and intersections along a sidewalk segment. Wrong-way sidewalk riding is of particular concern.
- Other attributes of the casual bicyclist include cycling shorter distances than the experienced rider and unfamiliarity with many of the rules of the road.
- The casual bicyclist will benefit from route markers, bike lanes, wider curb lanes, and educational programs. Casual bicyclists may also benefit from marked routes that lead to parks, schools, shopping areas, and other destinations.
- Experienced bicyclists include those who prefer the most direct, through route between origin and destination, and a preference for riding within or near the travel lanes. Experienced bicyclists negotiate streets in much the same manner as motor vehicles, merging across traffic to make left turns, and avoiding bike lanes and shoulders that contain gravel and glass. The experienced bicyclist will benefit from wider curb lanes (so that vehicles do

not have to change lanes to pass) and loop detectors at signals. The experienced bicyclist who is primarily interested in exercise will benefit from loop routes that lead back to the point of origin.

- Bicycles themselves range in cost from about \$200 to over \$2,000 for adult models. The most popular bicycle types today are the hybrid or mountain bike. These relatively lightweight bicycles feature wider knobby tires that can handle both on-road and off-road conditions, from 10 to 27 gears, and upright handlebars. Advanced versions have features such as front and rear shocks to help steady the rider on rough terrain. The “10-speed” bicycles of years past have evolved into a sophisticated ultra-light “road bike” that is used primarily by the serious long distance adult bicyclists. These machines feature very narrow tires that are more susceptible to flats and blowouts from debris on the roadway.
- Who rides bicycles? While the majority of Americans (and Fremont residents) own bicycles, most of these people are recreational riders who ride relatively infrequently. School children between the ages of about 6 and 14 typically make up a large percentage of the bicycle riders today, often riding to school, parks, or other local destinations on a daily basis, weather permitting. The serious adult road bicyclist who may compete in races, “centuries” (100 mile tours) and/or ride for exercise makes up a small, but important, segment of bikeway users, along with serious off-road mountain bicyclists, who enjoy riding on trails and dirt roads. Other bicyclists include lower-income people for whom the bicycle is their only transportation option, and are riding by necessity to work or for shopping. The single biggest adult group of bicyclists is the intermittent recreational rider who generally prefers to ride on pathways or quiet side streets.

4.5.1. Recreational Bicyclist Needs

The term “recreational” cyclist covers a broad range of skill and fitness levels. Recreational cyclists in Fremont can range from a “roadie” who joins 50 mile group rides on weekends, to a family with young children who occasionally want to ride a couple miles down a quiet bike path, and all levels in between. A cyclist’s level of skill, fitness, and comfort on the road will determine what type of facility they are looking for. The needs of recreational bicyclists must be understood prior to developing a system or set of improvements. While it is not possible to serve every neighborhood and every need, a good plan will integrate recreational needs to the extent possible. The following points summarize recreational needs:

- Recreational users cover all age groups from children to adults to senior citizens. Each group has its own abilities, interests, and needs.
- Directness of route is typically less important than routes with less traffic conflicts, visual interest, shade, and protection from wind, moderate gradients, or other features.
- People exercising or touring often (though not always) prefer a loop route rather than having to backtrack.

In order to characterize the differences in recreational cyclists, this study breaks this category into two subcategories: “Road Cyclists” and “Casual Cyclists,” acknowledging that these are generalizations and that the average cyclist may have attributes of both user groups.

Road Cyclists

Road cyclists are those who will bike almost exclusively on street, because roadways are the type of facility that accommodates their desire for higher speeds, longer distances, and few conflicts with other recreational users. Typical trip distances for the road cyclist can range from 10 miles to over 50 miles. While the average road cyclist would likely prefer to ride on roads with little or no traffic, they are generally comfortable riding in traffic if necessary. To this end, a road cyclist will tend to ride in a manner similar to a motor vehicle (e.g. when approaching traffic signals or making left turns). Road cyclists are typically not seeking a recreational destination along the route, as the ride itself is the recreation. In fact, special cycling clothing and shoes and the lack of a bicycle lock, tends to limit the ability of the road cyclist to park and walk around off the bike.

Due to the relatively narrow width and thin casing of standard road bike tires, road cyclists are often susceptible to flat tires. As such, road cyclists are very concerned about glass, rocks, and other debris on the road or in the shoulder. In addition, loose material on the road such as sand or gravel can cause skinny road tires to lose traction and wash out on curves. Since most road debris tends to end up in the shoulder, road cyclists will tend to merge into the travel lane if any debris is present in the shoulder that might cause a flat tire or other hazard. This can sometimes lead to conflicts with motor vehicles, as many motorists don’t understand why a cyclist is riding in the lane if there is a seemingly good shoulder available.

Although very dependent on the fitness level of the rider, topography is less of a limiting factor for road cyclists; in fact, many road cyclists seek out routes that involve challenging and scenic terrain, which is often hilly. In Fremont, these may include rides up Niles Canyon Road to Palomares Road, Morrison Canyon Road, or across the Dumbarton Bridge bike path to destinations in the Santa Cruz Mountains.

Many of Fremont’s recreational road cyclists are members of the Fremont Freewheelers Bicycle Club, which sponsors a variety of recreational rides each month.

Casual Cyclists

Casual recreational cyclists are those who generally want to ride on off-street bike paths, are seeking a more relaxed cycling experience, and cover shorter trip distances at slower speeds. Casual cyclists will tend to do trips of less than 10 miles in length, and often ride more comfort-oriented bikes, hybrid or mountain bikes. Casual cyclists may ride as a family group, with children, and because they are more likely to ride with others of varying skill and fitness levels, flat topography is generally desired. Casual cyclists are typically not comfortable riding in traffic, and will avoid riding on busy streets when possible, riding on the sidewalk if necessary. Bike routes that extend through low-traffic residential streets are generally acceptable for casual cyclists, even if they are not the most direct route between destinations. Casual

cyclists may load their bikes in their cars and drive to a bike path, and are more likely in need of parking areas. Having recreational amenities and features along the route is more important to the casual cyclists, such as drinking fountains, shaded areas, picnic tables, interpretive signs, and scenic vistas. Recreational destinations are also important for casual cyclists, as they provide a place to stop and get off the bike and walk around. To this end, having secure bike parking at destinations is important.

Because of its relatively flat topography, Fremont offers many good opportunities for casual and family cyclists, and attractive recreational destinations including the Alameda Creek Trail and Coyote Hills Regional Park. Major barriers would include the major freeway crossings of I-680 and I-880, busy arterial roadways or highways, and major crossings or intersections that might intimidate casual cyclists who are not comfortable negotiating heavy traffic, merging, or lane changes, especially those who go on family rides with young children. Clearly signed bike routes that avoid busy streets and intersections are important to encourage casual cyclists.

4.5.2. Commuter Bicyclist Needs

As this plan for enhancing and developing bicycle facilities, and available state and federal bicycle funding is primarily focused on commuting cyclists – those riding to work or school, or for shopping, errands, and other utilitarian trips – it is important to understand the specific needs of bicycle commuters.

Commuter bicyclists in Fremont include employees who ride to work, children who ride to school, and people riding to destinations such as downtown businesses or neighborhood parks. Millions of dollars have been spent throughout the United States attempting to increase the number of people who ride to work or school, with moderate success. Bicycling requires shorter commutes, which runs counter to many of our nation's past land use and transportation policies, which effectively encouraged people to live further, and further from where they work. Access to transit helps extend the commute range of cyclists, but transit systems also face an increasingly dispersed live-work pattern that is difficult to serve. Despite these facts, Fremont has the potential to increase the number of people who ride to work or school because of (a) concentrated local employment, (b) a relatively flat topography, (c) a moderate climate, and (d) a high percentage of work commute trips (20%) that are less than 15 minutes in length.

For example, bicycle commuters in the City of Davis have reduced peak hour traffic volumes by over 15 percent -- to the point that many downtown streets that would normally be four lanes of traffic (with no bike lanes) have only two traffic lanes and ample room for bicyclists. While Davis may be an anomaly, national surveys have indicated that about 20 percent of the adult population would use a bicycle to ride to work at least occasionally if there were a properly designed bikeway system.

Commuter and student destinations in Fremont residents include major employers such as LAM Research Group, the numerous high-tech office and industrial parks located in the city, colleges such as Ohlone College, the Fremont BART station and Amtrak/ACE station, and elementary, junior high and high schools. Targeting bikeway improvements to commuters is important because most roadway

4. Needs Analysis

congestion and a significant portion of air contaminants occur during the AM and PM periods. Enhancing the safety and aesthetic attractiveness of Fremont bikeways will help to encourage even more residents to commute on bicycles.

Key commuter needs are summarized below.

- Commuter walking or bicycling typically falls into one of two categories: (1) adult employees, and (2) younger students.
- Adult employee commuters may be further broken down into “by choice” and “by necessity.” “By Choice” commuters may own motor vehicles, but choose to bicycle to work for a variety of reasons such as avoiding traffic, health and exercise, or environmental reasons. “By Necessity” commuters are typically lower income residents who may not own a motor vehicle at all (or even have a drivers license), and use the bicycle as their primary transportation mode.
- Commuter trips range from several blocks to one or more miles.
- Commuters typically seek the most direct and fastest route available. Many experienced “By Choice” adult commuters are comfortable riding on-street, often preferring to ride on arterials rather than side streets. “By Necessity” commuters are often less experienced cyclists who are not aware of the rules of the road and are more likely to ride on the sidewalk or ride in the wrong direction on-street.
- Unprotected intersection (no traffic control device such as a signal or stop sign) crossing locations are major concerns of all bicycle commuters.
- Commute periods typically coincide with peak traffic volumes and congestion, increasing the exposure to potential conflicts with vehicles.
- Places to securely store bicycles are of paramount importance to all bicycle commuters.
- Major commuter concerns include changes in weather (e.g. rain), riding in darkness, personal safety and security.
- Many younger students use sidewalks for riding to schools or parks, which is acceptable in areas where pedestrian volumes are low and driveway visibility is high, and the cyclists speed is relatively low. Where on street parking and/or landscaping obscures visibility, sidewalk riders may be exposed to a higher incidence of accidents. Older students who consistently ride at speeds over 10 mph should be directed to riding on street wherever possible.
- Cyclists riding the wrong-way on-street appear to be fairly common in Fremont (based on field observations), and accounted for over 1/3 of the recorded accidents from 2000-2003, pointing to the need for education programs for both children and adults.

Commuters and students follow similar paths, which is typically the most direct possible route from origin to destination. For grammar school students, this may

consist of residential or collector streets, with few crossings of major arterials. For junior high and high school students, riders may have to cross up to five or six arterials to reach school. For college students and adult commuters, trips are most often under five miles but may be as long as 10 or 15 miles.

Unfortunately, commuters and students need to travel during periods of peak traffic activity, and to destinations that may have high levels of congestion and traffic volumes/speeds. For example, one of the most dangerous parts of a young student's commute is the drop-off zone in front of their school where dozens of vehicles jockey for position.

Once they have arrived at their destinations, bicycle commuters often find no (or poor) bicycle racks, and no showers or lockers. Rather than providing an incentive for bicyclists, most schools and employers inadvertently discourage bicyclists while continuing to subsidize parking for the automobile.

In terms of developing an overall bikeway network, improvements that benefit commuting bicyclists include bike lanes or wider curb lanes along arterials and collectors, loop detectors at signalized intersections, new signals where school children need to cross busy arterials, adequate maintenance of the pavement, and adequate bicycle storage and showers at their destinations. Beyond the network development and "Engineering" aspects of the plan, commuter bicyclists can benefit greatly from the other 3 E's: Educational programs that emphasize bicycling street skills and safe traffic behavior (for both bicyclists and motorists), Enforcement of both motorist and bicyclist traffic violations, and Encouragement efforts and campaigns such as Bike to Work day or employer-based bike commute incentives.

Most commute bicycle trips are under five miles, except for those commuters linking to another mode such as bus transit, BART, Amtrak, or ACE. Allowing bicycles on other modes such as rail or bus, or providing bicycle lockers at multi-modal stations help extend the range of the bicycle commuter. Other bicycle commuters will depend on a well-devised local bikeway network produced by a city in its bicycle plan.

4.6. PUBLIC OUTREACH

Public outreach is an important component of the Fremont Bicycle Master Plan process. The public outreach process for this project included variety of mechanisms to obtain public input, including an Advisory Committee, a survey, and a series of public workshops.

4.6.1. Advisory Committee

An Advisory Committee comprised of City of Fremont Staff, key BPTAC members, and project consultants was convened to discuss key plan elements and review interim work products. Advisory Committee meetings were held on an as-needed basis over the course of the Bicycle Master Plan process.

4.6.2. Survey

A survey form was prepared in order to gather information from Fremont residents on current bicycling behavior, any problem areas they have identified, and any improvements in the bikeway system they would like to see. The survey was distributed at the first public meeting, was posted to the City's Bicycle and Pedestrian Program webpage, and notice of its availability was made to local cycling groups including the Fremont Freewheelers and the East Bay Bicycle Coalition. Survey responses were taken during the months of October and November 2004. A copy of the survey form and summary of the responses received are included in Appendix B of this plan.

4.6.3. Public Workshops

The Bicycle Master Plan process included a series of public workshops to receive community input. The first public workshop was held on October 20, 2004. This meeting was intended to introduce residents to the Master Plan process and schedule, and to gather input on existing bicycling conditions in Fremont. The second public workshop was held on April 13, 2005, and focused on a presentation of the Draft Bicycle Master Plan and recommended Bikeway network. Additional opportunities for public comment will be available following release of the Draft Final Bicycle Master Plan when the Plan is considered by the Bicycle Advisory Commission, Planning Commission and finally by the City Council for adoption. Meeting notices and summaries from the workshops are provided in Appendix C to this plan.

5. RECOMMENDED BIKEWAY SYSTEM AND IMPROVEMENTS

The recommended improvements for the Fremont Bicycle Master Plan consist of a bikeway network and bicycle-related support facilities and programs. The bikeway network includes Class I bike paths, Class II bike lanes, and Class III bike routes linking residential neighborhoods, schools, parks, community centers, libraries, employment centers, commercial and retail areas, and providing regional connections. The recommended bicycle support facilities and programs include bike parking facilities, maintenance programs, Safe Routes to School programs, and educational programs.

The established methodology for selecting a bikeway network for any community begins with the primary effort to receive input from the local bicycling community and local staff familiar with the best routes and existing constraints and opportunities. For this project, an Advisory Group comprised of BPTAC members and city staff served to discuss existing conditions, the goals of the plan, and the specific improvements recommended here. The input of the TAC was supplemented by formal public workshops, and a survey of community members.

The following criteria were used to develop the bicycle network and improvements:

- Existing Bicycling Patterns – Advisory Group members, public workshop participants and survey respondents identified preferred bicycling patterns.
- Connectivity – System connectivity, providing access from one bikeway corridor to the next.
- Traffic volumes and travel speeds – Lower volume and lower speed roads are typically preferred by bicyclists; experienced bicyclists may find higher volume and higher speed roads acceptable.
- Amount of side friction (driveways, side streets) – Bicyclists prefer roads that minimize potential side street conflicts.
- Curb-to-curb width – Bicyclists prefer roads with wider riding areas.
- Pavement condition – Bicyclists prefer smooth roadways.
- Access to and from residential areas – Corridors that provide access from residential areas are preferred.
- Number of destinations served – Corridors that maximize the number of destinations served, such as schools, parks, employment centers, and multi-modal terminals, are preferred.
- Topography – Corridors that are on level ground or follow the contours of hills, to avoid significant grade changes, are preferred for transportation (some recreational cyclists seek out hills).

- Integration into the regional system – Connectivity to the regional bikeway system is preferred.
- Adjacent land use – The compatibility with adjacent land uses is important.
- On-street parking – Bicyclists prefer roads that minimize potential conflicts with parked vehicles.
- Existing opportunities such as planned roadway improvements – Integrating recommended bike facility improvements into planned roadway improvements is preferred.
- Routes with intersection protection and minimal delay – Bicyclists prefer corridors that minimize stopping requirements for the bicyclists while maximizing stopping requirements for conflicting vehicle traffic.

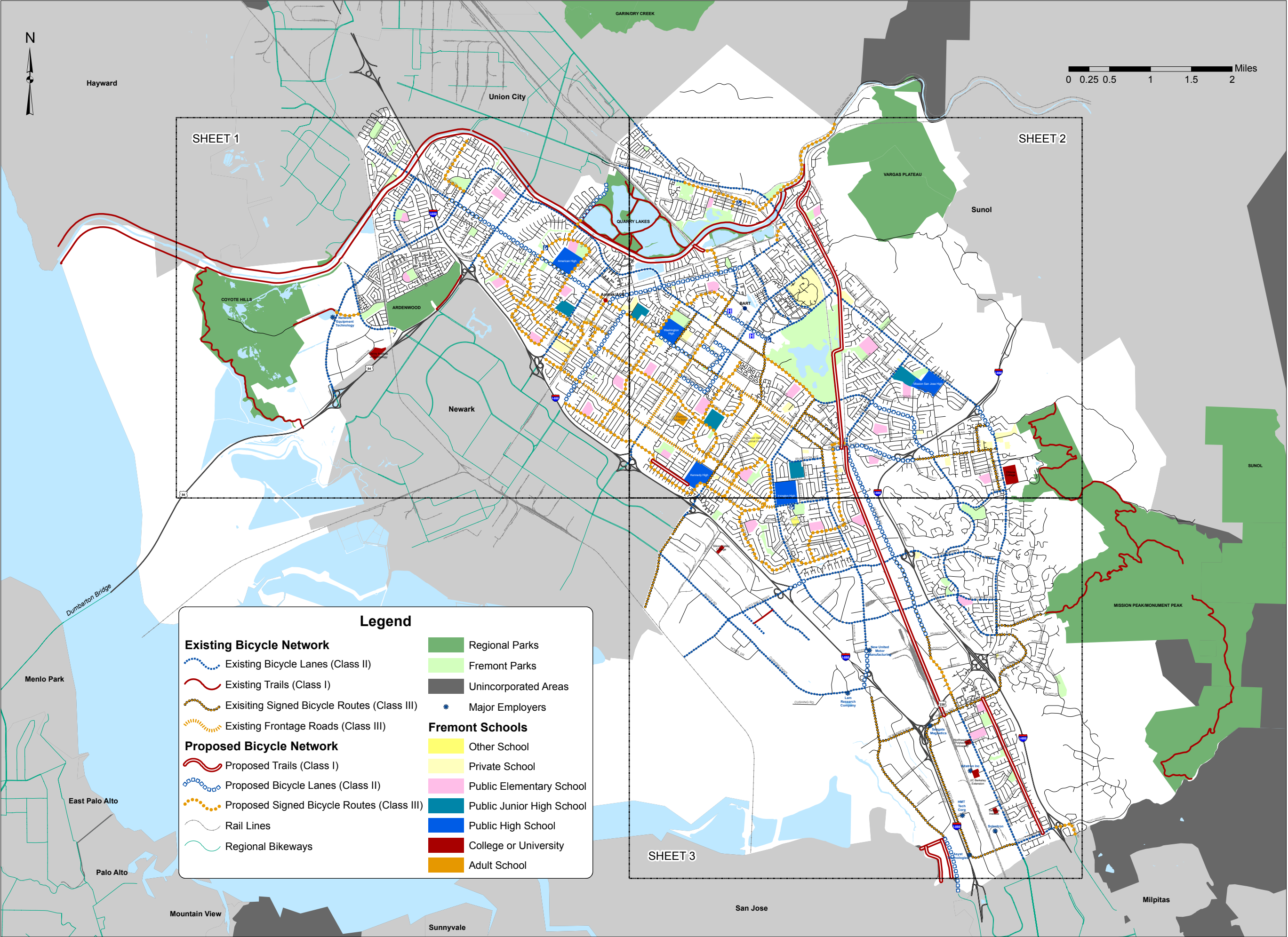
Many of the recommended facilities and programs in this chapter result directly from input from the Advisory Group and public workshop participants when they discussed the bike routes they regularly ride through Fremont and identified locations they viewed as either opportunities or constraints.

5.1 RECOMMENDED BIKEWAY NETWORK

A bikeway network is a system of bikeways that for a variety of reasons – safety, convenience, destinations served, attractiveness – provides a superior level of service for bicyclists. **It is important to recognize that, by law, bicyclists are allowed on all streets and roads regardless of whether they are a part of the designated bikeway network.** The bikeway network serves as a tool that allows the City to focus and prioritize bicycle facility implementation efforts where they will provide the greatest benefit to bicyclists and the community at large.

The Recommended Bikeway Network for Fremont is shown in **Figures 5-1 to 5-4**. The system of bikeways is classified into the standard Caltrans Class I, II, and III bikeway categories discussed in Chapter 2.

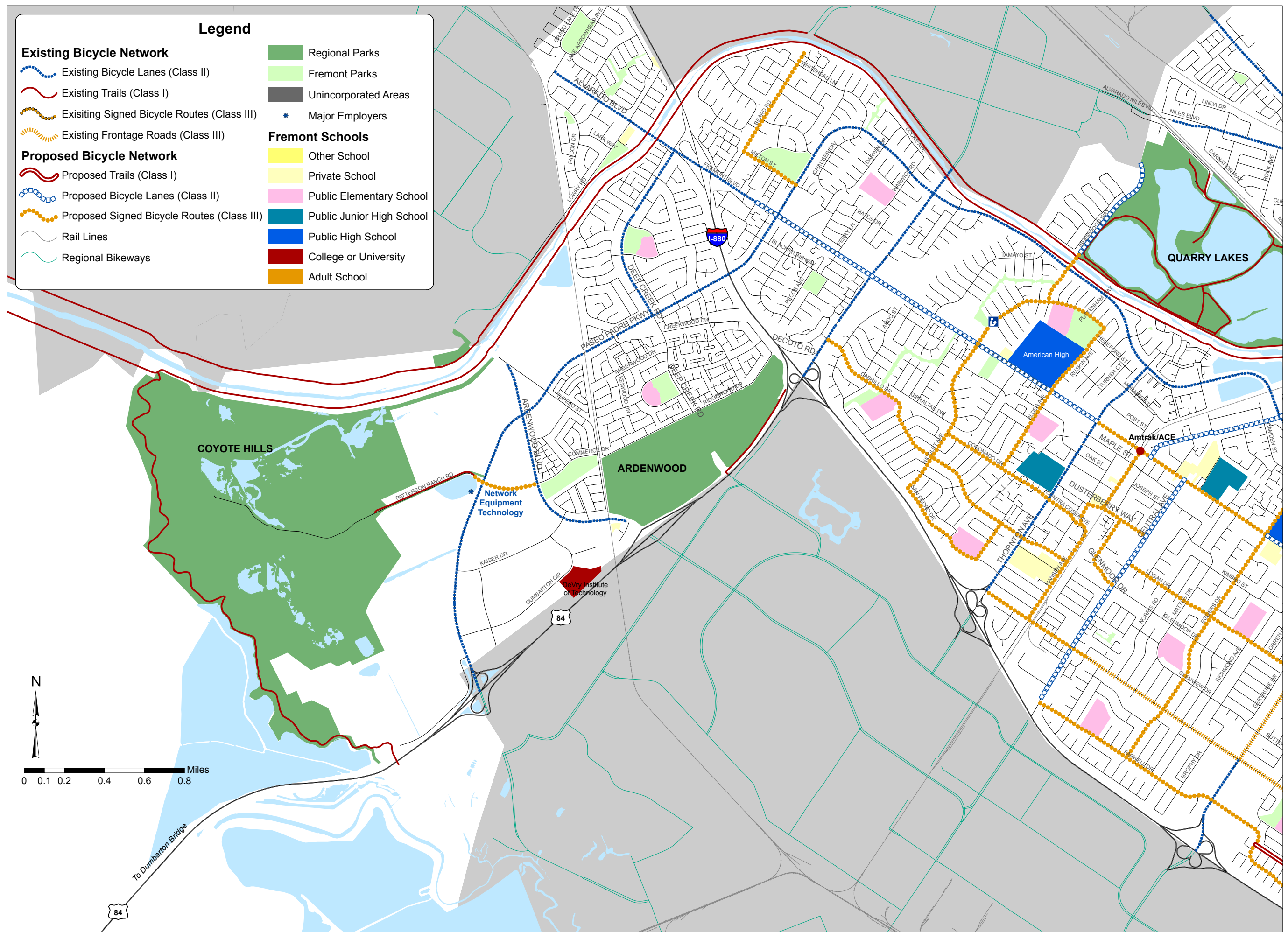
Figure 5-1: Fremont Existing and Proposed Bicycle Network - Index Sheet



5. Recommended Bikeway System and Improvements

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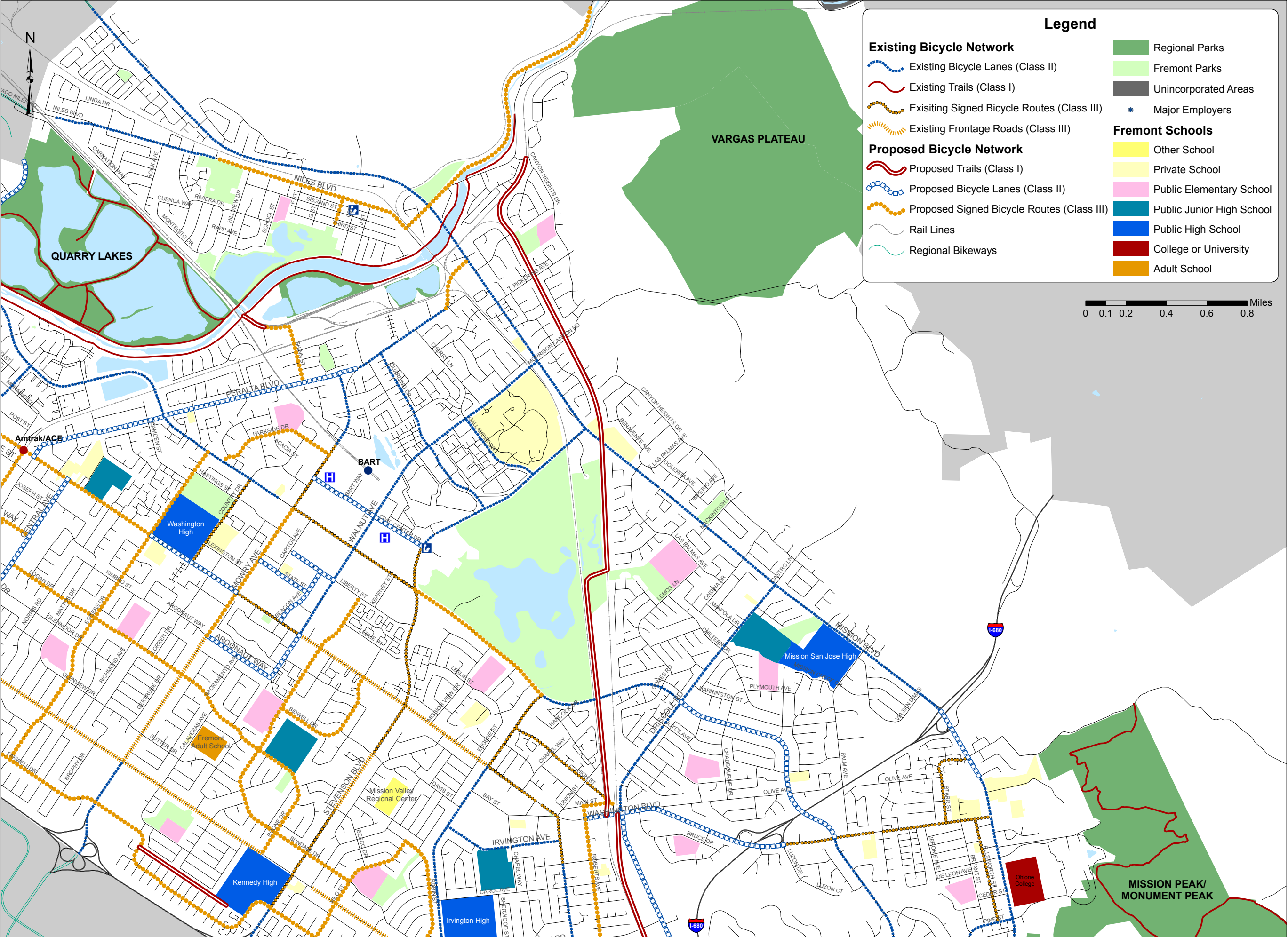
Figure 5-2: Fremont Existing and Proposed Bicycle Network - Sheet 1 of 3



5. Recommended Bikeway System and Improvements

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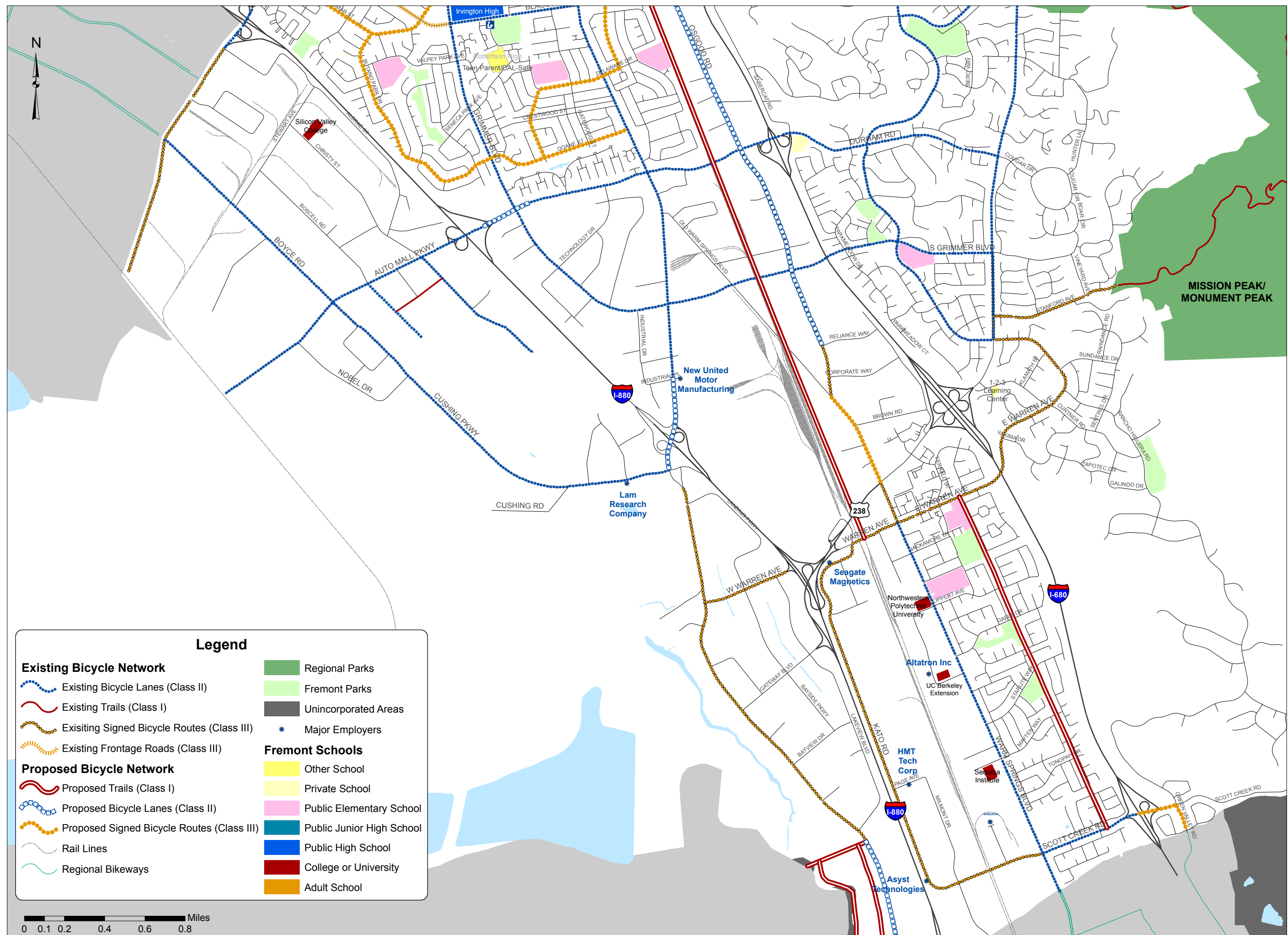
Figure 5-3: Fremont Existing and Proposed Bicycle Network - Sheet 2 of 3



5. Recommended Bikeway System and Improvements

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Figure 5-4: Fremont Existing and Proposed Bicycle Network - Sheet 3 of 3



5. Recommended Bikeway System and Improvements

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Most of the bikeway facilities identified on Figure 5-1 through 5-4 have been broken down into specific network projects – a project may include several individual bikeway segments that, together, form a logical route or connect a gap in the system. By grouping the bikeway network into projects – rather than discrete segments – the City of Fremont will be able to better prioritize the various improvements for implementation. Listing the improvements as projects will also help the city to obtain funding, as each project fills a specific need in the network.

The full bikeway network project list for the Bicycle Master Plan is provided at the end of this chapter, starting on page 5-24. The project list also includes some of the specific support facility improvements discussed below.

5.2 RECOMMENDED SUPPORT FACILITIES AND PROGRAMS

Support programs and facilities are an important component of a bicycle transportation system. Support programs (such as bikeway management and maintenance, signing, and promotional/educational programs) and facilities (such as bicycle racks on buses, bicycle parking racks, and showers and lockers for employees) further improve safety and convenience for bicyclists.

5.2.1. Bicycle Parking and End-of-Trip Facilities

Bicycle parking includes standard bike racks, covered lockers, and corrals. Bicycle parking should be installed on public property, or available to private entities on an at-cost basis. Bike racks are provided at few local schools and at virtually no downtown locations in Fremont. An overall lack of safe and secure bicycle parking is a concern of bicyclists who may wish to ride to work or to shop. Theft and vandalism of bicycles, especially now that bicycles are often worth in excess of \$250 to \$2,000, is a major impediment to bicycle riding. Showers and lockers are essential end-of-trip facilities, providing comfort and greater security for commuters, and encourage more people to bicycle to work. A systematic program to improve the quality and increase the quantity of bicycle end-of-trip facilities should be implemented in Fremont.

RECOMMENDATIONS

Increase Public Bicycle Parking Facilities

Functional bike parking should be provided at public destinations, including shopping centers, community centers, parks, and schools. All bicycle parking should be in a secure, visible area that is convenient to the destination (near building entrances). Bicycle parking on sidewalks in commercial areas and along walkways of shopping centers should be provided according to specific design criteria, reviewed by merchants and the public, and installed as demand warrants. As a general rule, ‘U’ type racks bolted into the sidewalk are preferred in shopping centers, to be located intermittently and/or at specific bicycle destinations (e.g. cafes, grocery stores). Commuter locations such as major transit stops should provide secure indoor parking, covered bicycle corrals, or Class I bicycle lockers.

Adopt a Bicycle Parking Ordinance

Consider adoption of a bicycle parking ordinance, which requires that bicycle parking facilities be included in all new commercial and office development projects in Fremont. For example, all new commercial development or redevelopment in excess of 40,000 gross leasable square feet should be required to provide one space in an approved bicycle rack per 10 employees.

Currently there are no requirements for bicycle parking accommodations in the City of Fremont Municipal Code. Such an ordinance would be a complement to the city's parking requirement, which would add parking facilities to existing commercial and office locations. Model bicycle parking zoning ordinance language is provided in Appendix D.

Encourage Employer Provision of Shower and Locker Facilities

Encouraging employers to provide shower and locker facilities for employees should be a component of all commute and traffic demand management programs as these facilities provide for current commuters and may encourage more commuters to ride their bicycles. Most of Fremont's largest employers provide no designated bicycle parking, locker, or shower facilities (see Table 2-5). Several cities condition the approval of new construction and development to provide shower and locker facilities. For example, the model planning ordinance for the City of San Francisco, provided in Appendix D, requires that new industrial and commercial developments over 10,000 gross square feet in floor must provide one shower and two clothes lockers.

Provide Valet Bike Parking at Public Events

A new program to provide closed-in secure bicycle corrals at all large public events such as the Festival of the Arts, to encourage residents and visitors to bicycle rather than attempt to drive should be instituted. The appropriate agency or organization should sponsor this corral and seek volunteers to staff the corral during the events. Volunteers from groups such as the East Bay Bicycle Coalition or Fremont Freewheelers could assist in staffing the valet parking corral.

5.2.2. Safe Routes to School

This plan has identified a number of Class III neighborhood bike routes that will benefit school children that bicycle to school. Identifying and improving routes for children to walk or bicycle to school is one of the most effective means of reducing AM traffic congestion and addressing existing safety problems. Most effective school commute programs are joint efforts of the school district and city or county, with parent organizations adding an important element.

RECOMMENDATION

Develop a Safe Routes to School Program

Each public (Fremont Unified School District) and private school in Fremont should conduct its own evaluation of school commute patterns and work with the Engineering Department in identifying corridor and crossing improvements. School commute routes are highly local in nature, requiring extensive and detailed

examination of patterns and conditions and local input. School commute improvements were discussed in public and staff comments, due to concerns about current safety and impacts of school-related traffic, and partially because of new State funding opportunities.

School commute projects need to be developed in a traditional planning process that includes (a) school administrators and teachers, (b) local PTAs and other groups, (c) neighborhood groups and the public, (d) the police department, and (e) City transportation engineers. The planning process can be accomplished by these groups using the step-by-step process outlined below, or by enlisting professional services.

Steps to Develop a Safe Routes to School Program

1. Form a School Commute Task Force composed of representatives from the school district, public works and law enforcement agencies, the local neighborhood, parent-teachers or other similar group, and the school itself.
2. Set objectives and a reasonable schedule for this Task Force to accomplish its goals.
3. Determine the preferred basic commute routes to the school based on (a) parent and student input, (b) a survey of parent and student community patterns, (c) public works and law enforcement input, and (d) observations of actual commuting patterns.
4. Are there any efforts to guide students who wish to walk or bicycle to school? Does the school provide a map of recommended routes?
5. Does the school wish to encourage more students to walk or bicycle to school? While there is a perception of safety being a concern, statistics show that walking and bicycling are just as safe as driving. Yet many parents insist on driving their children even a few blocks to school--thus contributing to the traffic congestion.
6. Study the parking lot and drop off areas of the school. Is there a pattern where students are walking between cars or through parking lots or drop off areas to reach the school? Are there are management efforts to get parents to follow any specific drop-off protocol?
7. Are there adequate sidewalks and bike lanes on the streets directly serving the school? Are there school access points which encourage students to cross midblock or at other less desirable locations?
8. Where are the first major street crossings on the main school commute routes? Many accidents occur at these intersections. Are they signalized? Is the signal timing adequate even for younger students? Are there crossing guards?
9. Are there any locations where students are crossing major or minor streets at midblock or unprotected locations, i.e., no stop signs or signals? Because children are sometimes hard to see and have difficulty in gauging vehicle speed, these locations can be the focus of improvements.
10. Do students have to cross intersections that have very wide turning radii, where vehicles can accelerate and merge while turning? These are

problematic because drivers are focused to their left at merging traffic rather than in front at crosswalks.

11. Do all intersections have properly designed crosswalks? The crosswalks should be located so that students can wait safely on the sidewalk prior to seeing if they can cross. Is there adequate visibility and lighting given the speed of traffic? Are there adequate warning signs in advance of the crosswalk?
12. What are the 85th percentile speeds of traffic on the major school commute corridors? Are they significantly above or below the posted speed limits? When was the last speed survey conducted? What is the level of police enforcement, and does it occur only at the beginning of the school year? It is possible to lower speed limits near schools. In other locations, it may be necessary to make physical changes, such as narrowing travel lanes, to slow traffic. It may also be preferable to accept slightly more congestion on a two-lane street, and have slower speeds, than have free flowing high-speed traffic on a four-lane street.
13. School Commute Projects involve numerous often-small incremental changes to sidewalks and roadways, such as adjustments to signal timing or new signing or lighting. In other cases, innovative lighted crosswalk treatments or even grade separation may be warranted. Working with the Task Force will help a school determine the best mix of improvements suitable for each corridor, and compatible with local traffic conditions.
14. A more detailed evaluation methodology, which rates improvements and corridors according to objective criteria, has been developed and is available for use by local schools. However, it may require the services of specialists who understand traffic safety and engineering.
15. Once the improvements have been identified, a preliminary design or plan must be completed which describes the project and its cost. For example, a crosswalk improvement would need to be designed so that it can be reviewed and approved by the appropriate agency. Again, a professional may be engaged for this effort.
16. With a plan and cost estimate, the project still needs a sponsor. Typically this would be the Traffic/Transportation Engineering Section, which is best connected to available funding sources and familiar with the State and Federal procedures necessary to obtain funding, in partnership with the Fremont Unified School District (or individual private schools). The project sponsor(s) will need an official authorization, and confirmation that (a) the right-of-way is publicly owned, (b) staff have reviewed and approved the project, and (c) no negative impacts have been identified. With this in hand, the project sponsor can seek funding, which usually requires a 10% or greater matching amount.
17. Programs that may be implemented include a “Walking School Bus Program”, which involves parents taking turns walking (or bicycling) with groups of children to school. Other innovative programs are identified in Marketing, Education, and Support Programs.

5.2.3. Maintenance

The City of Fremont's bikeways need regular maintenance. Typical tasks include repairing damaged and potholed roadway surfaces and clearing plant overgrowth. Bike lanes and bike routes should have regular sweeping to clear debris. Although these latter aspects are generally associated with routine roadway maintenance, special attention to bikeway safety and usability is important and can mean additional costs are incurred. The typical maintenance program for bicycle facilities is provided in Table 5-1.

Table 5-1
Maintenance Program for Bicycle Facilities

| Item | Frequency |
|---|---|
| Sign replacement/repair | 1-3 years |
| Trail pavement marking replacement | 1-3 years |
| On-Street pavement marking replacement | 1-3 years |
| Planted tree, shrub, & grass trimming/fertilization | 5 months-1 year |
| Pavement sealing/potholes | 5-15 years/30-40 years for concrete |
| Clean drainage system | Annual |
| Pavement sweeping | Monthly |
| Shoulder mowing and weed removal | Bi-Annual – Fall/Spring |
| Trash disposal | As needed, twice a week |
| Inspect bridge abutments and structures | After each storm |
| Graffiti removal | Weekly |
| Maintain furniture | 1 year |
| Restroom cleaning/repair | Weekly |
| Pruning to maintain vertical clearance | 1-4 years |
| Remove fallen trees | As needed (on trail only) |
| Weed control | Monthly |
| Maintain emergency telephones | 1 year |
| Maintain irrigation lines/replace sprinklers | 1 year |
| Irrigate/water plants | Weekly - as required during establishment growth period |
| Fencing | Monthly |

RECOMMENDATIONS

Develop a Funding Source for the Bicycle Maintenance Program

Bicycling is an integral part of Fremont's transportation network, and maintenance of the bikeway network should be part of the ongoing maintenance program for all city transportation facilities. As such, bikeway network maintenance should receive an appropriate allocation of the City's transportation maintenance funds. The City may also want to consider pursuing other methods of securing funding for bikeway and trail maintenance. Several cities have employed successful "Adopt-a-Trail" programs, the implementation of "recreational fees" on the purchase of recreational equipment in the city, or other fundraising activities. The funding could be used to develop a bicycle and pedestrian maintenance request system, similar to those in Seattle, Portland, and other cities.

5.2.4. Intersection and Bikeway Spot Improvement Program

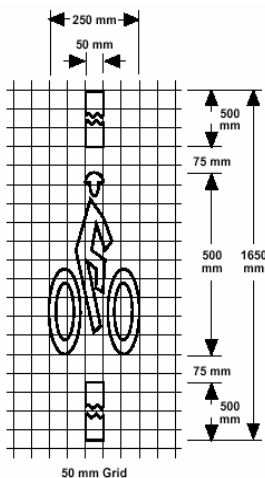
RECOMMENDATION: The City should ensure that a mechanism exists to evaluate and make spot improvements to alleviate potential hazards and improve conditions for bicyclists at specific intersections and locations along the bikeway network. Hazards may include improperly designed or placed drainage grates, cracks or seams in the pavement, or overhanging tree limbs or other obstacles located along bikeways. Intersection problems may include areas where lane changes are difficult (e.g., bike lane to left turn pocket), signal timing problems (e.g. green phase too short), or locations where vehicular traffic congestion blocks bike facilities on a regular basis. For intersections, the city of Fremont should evaluate bicycle accident data on an annual basis to determine if any specific intersection locations appear to have higher accident rates that could be due to design problems. Hazards, such as obstacles in a bikeway, should be eliminated as quickly as possible. Conducting “pilot projects” for specific intersection locations can be an effective way to test innovative intersection treatments that may improve safety for cyclists.

A spot improvement program is considered ongoing, as hazards may emerge over time (e.g., as bikeway facilities age) and future changes in traffic patterns may affect intersection conditions. The city should ensure that a mechanism is in place for collecting input on problem locations along the bikeway network, such as a form available on the city website.

5.2.5. Bicycle Signal Detection

To enable safe bicycle travel through signalized intersections, bicycles should be detected at the waiting positions used by cyclists proceeding through and turning left. Detection of vehicles and bicycles is performed either with inductive loops (in-pavement metal detectors, combined with change detection circuitry) or video (overhead cameras combined with image processing software).

RECOMMENDATION: At appropriate signalized intersections (at a minimum, all signalized intersections on the bikeway network), install and mark traffic detection devices (loops or video) that are responsive to bicycles. Signal detectors and stencils identifying where bicyclists place their bicycles to trigger signals should be reviewed and approved by City staff prior to implementation. Specific implementation criteria may include sensitivity, impact of overlay projects, cost, and need. All signal detectors should be checked regularly to ensure that they are functioning correctly.



Caltrans Standard Plan
A24C bicycle detection

Details of sawcuts and winding patterns for inductive detector loop types appear on Caltrans Standard Detail ES5B and appear in this document as part of **Appendix A**. The City of Fremont uses loop types “C” (quadrupole) and “D” (diagonal-slashed) for bicycle detection. Type “A” loops (6’ square) are not bike-sensitive in their center and should not be used for bicycle detection. The state standard bicycle detection marking appears on Caltrans Standard Plan A24C.

Video image detection should sense bicycles in all approach lanes and also on the left side of right-turn channelization islands. Some video systems can estimate approach speed, and this capability could be used to extend the minimum green time for slow objects assumed to be bicycles.

- The City should ensure that all bicycle loops are tested annually and are calibrated and operable. For locations that have ongoing maintenance or adjustment problems, the City should explore the use of video detection. While the cost of video detection is more expensive in the short term, it should provide a long-term cost savings with reduced maintenance costs.
- Standard bicycle detection markings should be applied in the center of the appropriate lane for all loop locations to show cyclists the best place to wait. (For inductive detection this implies that the loop must sense bicycles in its center). As part of the loop detector testing program, the city should ensure that the markings are placed in the proper location above the detector.
- For new installation it is recommended that the City use Type D for lead loops in all lanes except bike lanes, where a narrow Type C may be appropriate.

5.2.6. Construction Activities

RECOMMENDATION: Consider impacts on bicycles while performing construction, maintenance and repair work on roadways and trails.

- Provide suitable construction warning signs for any activities that involve work in a designated bikeway.
- Where necessary, provide detour routes around areas undergoing construction.

Detailed guidelines are provided in **Appendix E** for accommodating bicycles in construction zones.

5.2.7. Bicycle Enforcement

RECOMMENDATION: The Fremont Police Department should continue to perform enforcement of vehicle statutes relating to bicycle operation. A particular focus should be on individuals riding the wrong direction, or riding on the sidewalk, as these behaviors increase the chance that a cyclist will be involved in a collision. Enforcement of vehicle laws related to bicycling can serve as an educational tool, as some individuals may simply not understand that they are breaking the law and putting themselves at risk.

5.2.8. Signage and Striping

All bikeway signage on public roadways in Fremont should conform to the signage identified in the 2003 Manual on Uniform Traffic Control Devices (MUTCD) and California Supplement. These documents give specific information on the type and location of signing for bicycle facilities in the Fremont bicycle network. Samples of suggested signage and striping are outlined in **Appendix A**.

RECOMMENDATIONS

Designated Bikeway Signs

The installation of bikeway signs on all designated bicycle facilities is important to heighten motorist awareness and help cyclists find their way. Installing signage is something that can be implemented easily compared to major striping revisions or bike path construction and should be implemented as a priority. An example of where this applies is on Existing Class III Bike Routes where installation of several signs will complete a designated route. Since the City of Fremont's preferred Class II Bike Lane width is up to 8 feet, placing "Bike Lane" or "No Parking" signage along these bikeways (along with pavement stencils) will be important to ensure that motorists do not mistakenly drive or park in the relatively wide curbside bike lanes.

Wayfinding Signage

Wayfinding signage can enhance a bikeway network by providing directional assistance to bicycle facilities and significant local and regional destinations. It is recommended that the City of Fremont design bikeway network directional signage for use on the primary network. This signage program would work as a map on the street, identifying designated routes connecting to key destinations in Fremont and the region. The signage should also include mileage information. For example, a wayfinding sign on Paseo Padre Parkway may direct a bicyclist going to the BART station, to the proposed Parkside Drive Bike Route in order to cross Mowry Avenue.

5.2.9. Protect Bicycle Facilities from Removal

RECOMMENDATION: Implement a policy that existing bikeway facilities will not be removed. For example, Class II bike lane facilities will not be removed at a future date to increase motor vehicle capacity without a thorough study analyzing the alternatives.

5.2.10. Multi-Modal Connections

RECOMMENDATION: The various transit agencies operating in Fremont – BART, ACE, Capitol Corridor, AC Transit, VTA and Amtrak – should continue to allow bicycle access on all buses and trains. Bicycle travel to transit stops and stations should be enhanced in order to make the transfer between bicycle and transit travel as convenient as possible. Enhancing access could include additional bike racks at transit stations and stops, or the installation of new bicycle locker technology such as the eLocker™. The City of Fremont should coordinate with the various transit operators to pursue Safe Routes to Transit (SR2T) funding available through Regional Measure 2, as appropriate. SR2T funding is intended to plan and construct bicycle and pedestrian access improvements in close proximity to transit facilities, and eligible projects include bikeway facility construction, removal of bicycle barriers near transit stations, systemwide transit enhancements to accommodate bicyclists, and secure bicycle storage.

5.2.11. Education Programs

This section covers future efforts to educate bicyclists and motorists, and efforts to increase the use of bicycles as a transportation alternative. Most education and

encouragement programs and activities will likely be cooperative efforts between the City of Fremont, the Fremont Police Department, local school districts, Alameda County, and local bicycle groups such as the East Bay Bicycle Coalition.

The City of Fremont, the Police Department, and local school districts work in a variety of ways to educate children and adults on bicycle safety as described in Chapter 2. Unfortunately, statewide trends show that the lack of education for bicyclists, especially younger students, continues to be a leading cause of accidents. For example, the most common type of bicycle accident reported in California involves a younger person (between 8 and 16 years of age) riding on the wrong side of the road in the evening hours. Studies of accident locations around California consistently show the greatest concentration of accidents is directly adjacent to elementary, middle, and high schools.

RECOMMENDATIONS

Continue and Expand Existing Education Programs

Existing school education programs conducted by the Police Department should be continued and supported by a secure, regular funding source. A joint City/school district Safety Committee should be formed consisting of appointed parents, teachers, student representatives, administrators, police, active bicyclists and Transportation Department staff whose task it is to identify problems and solutions, ensure implementation, and submit recommendations to the School Boards or City Council. This effort should contribute to the development of the Safe Routes to School program.

For adult education, develop local adult bicycle education and safety programs, such as the League of American Bicyclists courses. Consider partnering with other local jurisdictions to develop adult education programs.

For bicycle infractions (such as running stop signs), consider utilizing local League of American Bicyclists or other education programs as a “bicycle traffic school” in lieu of fines.

Provide Safety Handbook

A standard safety handbook format should be developed incorporating the best elements of current handbooks and made electronically available to each school district so they may be customized as needed. Schools should develop a circulation map of the campus and immediate neighborhood showing the preferred circulation and parking patterns and explaining in text the reason behind the recommendations. This circulation map should also be a permanent feature in all school newsletters. Bicycle helmet subsidy programs are available in California and should be used to provide low-cost approved helmets for all school children bicyclists.

Educate Motorists and Bicyclists

Motorist education on the rights of bicyclists and pedestrians is virtually non-existent. Many motorists mistakenly believe, for example, that bicyclists do not have a right to ride in travel lanes and that they should be riding on sidewalks. Many motorists do not understand that they must only pass bicyclists when it is safe to do

so and with adequate passing distance. Many motorists do not understand why a bicyclist may need to ride in a travel lane if there is no shoulder or it is full of gravel, glass, or potholes. The term “Share the Road” is a common message that is intended to educate both motorists and bicyclists about their legal rights and responsibilities on the road, and the need to increase courtesy and cooperation to improve safety. Motorists and bicyclists should be educated about the rights and characteristics of bicyclists through a variety of means including:

- Make bicycle safety a part of traffic school curriculum.
- Produce a brochure on bicycle safety and laws for public distribution.
- Enforce existing traffic laws for both motorists and bicycles.
- Send an official letter to the Department of Motor Vehicles recommending the inclusion of bicycle laws in the driver’s license exam.
- Develop and hold bicycle planning and design training for all transportation engineers and planners in the city.
- Work with towing companies and emergency clean up crews so they better understand the needs of cyclists.
- Work with contractors, subcontractors and city maintenance and utility crews to ensure they understand the needs of bicyclists and follow standard procedures when working on or adjacent to roadways.
- Create public service announcements on radio and TV to promote the health and livability benefits of bicycling, and provide accurate information about motorist and bicyclists rights and responsibilities on the road.

5.2.12. Encouragement Programs

Encouragement programs are vital to the success of the Fremont Bicycle Master Plan. Encouragement programs can help get more people on bicycles (or walking) for commuting, shopping, taking their children to school, etc., which will help to reduce traffic congestion and air pollution, as well as improve the quality of life in Fremont. However, without community support, the City lacks the resources that are needed to ensure the success of encouragement programs over time. While the City of Fremont’s Transportation Department may be responsible for designing and constructing physical improvements, strategies for community involvement will be important to ensure broad-based support – which translates into political support – to help secure financial resources. Involvement by the private sector in raising awareness of the benefits of bicycling can range from small incremental activities by non-profit groups, to efforts by the largest employers in the City. Specific programs are described below.

RECOMMENDATIONS

Facilitate the Development of Employer Incentive Programs

Facilitate the development of employer incentive programs to encourage employees to try bicycling to work include providing bicycle lockers and shower facilities, and

offering incentives to employees who commute by bicycle by allowing for more flexible arrival and departure times, and possibly paying for transit or taxis during inclement weather. The City may offer incentives to employers to institute these improvements through air quality credits, lowered parking requirements, reduced traffic mitigation fees, or other means. Other efforts should include:

- Developing, promoting and publicizing bicycle commuter services, such as bike shops selling commute gear, bike-on-transit policies, and regular escorted commute rides.
- Creating an annual commuter challenge for area businesses.

Utilitarian and Recreational Trip Incentive Programs

Develop and implement encouragement programs for utilitarian and recreational purposes. Local businesses such as movie theaters and cafes should be involved to encourage customers to use bicycle for their trips. Such efforts may include:

- Implementing a “Bicycle Friendly Businesses” program.
- Creating events such as “Bicycle to the Grocery Store” days, when cyclists get vouchers for, or coupons off items in the store, or “bicycle to the movies” days, when cyclists receive free popcorn or a discount on a movie or refreshments. Providing secure, permanent bicycle parking at these locations is a key element in getting people to continue bicycle after the event is over.
- Holding an annual community event to encourage residents to replace one car trip a week with a bicycle trip.
- Supporting the planning and implementation of an annual mass bicycling ride in Fremont to attract new riders, showcase the city, and demonstrate the benefits of bicycling.
- Develop and implement a public education campaign to encourage bicycling, such as ads on movie screens, city benches, bicycle locker and billboard advertising, and videos on cable access television.

Bicycle Clunker and Parts Program, Bicycle Repair Program

This program involves obtaining broken, stolen, or other bicycles and restoring them to working condition. The program’s dual mission is also to train young people (ages 12 to 18) how to repair bicycles as part of a summer jobs training effort. Bicycles are an excellent medium to teach young people the fundamentals of mechanics, safety, and operation. Young people can use these skills to maintain their own bicycles, or to build on related interests. The program is often staffed by volunteers from local cycling organizations and bicycle shops, who can help build an interest in bicycling as an alternative to driving. The seed money to begin this program often comes from a local private funding source. The proposal submitted to this source should clearly outline the project objectives, operating details, costs, effectiveness evaluation, and other details. The bicycles themselves could be derived from unclaimed stolen bicycles from the police department, or from

donated bicycles. The program will need to qualify as a Section 501c(3) non-profit organization to offer tax deductions.

A similar program in Union City is run through the Leisure Services Department, instructing young people in bicycle maintenance and safety.

Community Bikeway Adoption

Community Bikeway Adoption programs are similar to the widely-instituted Adopt-a-Highway programs throughout the country. These programs identify local individuals, organizations, or businesses that would be interested in “adopting” a bikeway. Adopting a bikeway would mean that person or group would be responsible for maintenance of the bikeway either through direct action or as the source of funding for the City’s maintenance of that bikeway. For example, members of a local recreation group may volunteer every other weekend to sweep a bikeway and identify and address larger maintenance needs. Or, a local bike shop may adopt a bikeway by providing funding for the maintenance costs. The managers of an adopted bikeway may be allowed to post their name on bikeway signs throughout the bikeway in order to display their commitment to bicycling in Fremont.

Bike Fairs and Races

Hosting bike fairs and races in Fremont can raise the profile of bicycling in the area and provide entertainment for all ages at the same time. Bike fairs and races, similar to bike-to-work day events and bike rodeos currently hosted by the City, provide an opportunity to educate and encourage current and potential bicyclists. These events can also bring visitors to Fremont who may also contribute to the local economy. The Fremont Freewheelers Bicycle Club (FFBC) already hosts annual cycling events including a criterium race and the Primavera Century ride, and the City of Fremont should continue to support and issue permits for these events.

Bicycle Facilities Map

Producing a bicycle facilities map is the primary tool for showing bicyclists all the designated bikeways in Fremont. The map should also show significant destinations, the location of bicycle parking facilities, and bicycle facilities in the neighboring communities. The location of bike shops may also be shown. Such advertising on the widely distributed map should also help to offset printing costs of the map. The map should be distributed as widely as possible at locations such as city offices, libraries, schools, bike shops and other recreational retail outlets, and Ohlone College. The Bicycle Map should clearly show the type of facility (path, lane, or route) as well as include basic safety information.

Bike-to-Work and Bike-to-School Days

The City of Fremont should continue to participate in the annual Bike-to-Work day in May, in conjunction with the California bike-to-work week activities. City staff should be present at “energizer” stations along the route. Local Bike-to-School days should be held annually in conjunction with the Safe Moves bicycle education programs. The City should consider hosting other bicycle events unique to the Fremont community that will encourage more and safer riding.

Marketing the Bicycle Master Plan

The success of the Fremont Bicycle Plan depends largely on the community's acceptance and promotion of the Plan's contents. In addition, city departments and commissions should incorporate the policies, objectives and spirit of the Development Plan into their respective projects and responsibilities. The following steps will help ensure the plan becomes a living document, helping shape Fremont's future.

- Distribute copies of the Plan to members of the Planning Commission and City Council.
- Distribute copies of the Plan to City of Fremont's Building and Safety, Economic Development, Engineering, Environmental Services, Housing and Redevelopment, Neighborhoods, Parks and Recreation, and Planning Divisions, and the Fremont Police Department.
- Provide copies of the City of Fremont bicycle facilities map to local schools, bicycle and recreational groups, transit agencies, Ohlone College, bicycle shops, and major employers identified on Table 2-5 of this Plan.

5.3 OVERVIEW OF RECOMMENDED NETWORK PROJECTS

The recommended Fremont bikeway network shown in Figure 5-1 focuses on providing north-south and east-west bikeways that facilitate cross-town trips, provide access to major destinations such as schools, parks, commercial corridors and civic buildings, and provide for regional connectivity. The existing Class II network along major streets such as Fremont Boulevard, Mission Boulevard, and Paseo Padre Parkway has been enhanced with projects that connect gaps in the system, improve intersections and interchange crossings, and link to other bike routes. In addition, an extensive network of new neighborhood Class III routes has been proposed that utilizes neighborhood street segments to encourage less experienced cyclists, families or children to use their bicycles for commuting, errands, and recreation.

Several of the proposed Class III facilities along arterial segments are identified as “Shared Use” Facilities. “Shared Use” refers to the designation of these Class III facilities on higher volume roadways, rather than the low-volume neighborhood streets that are often associated with Class III bike routes. Although full Class II bike lanes would be desirable on these higher traffic roadway segments, due to roadway constraints such as lack of width, on-street parking, etc., bike lanes were determined not to be feasible within the existing right-of-way. In most cases, these segments are relatively short and connect between other Class II segments. The “Shared Use” enhancements referred to in the text could consist of signage and stenciling such as the Shared-Use pavement marking that has been studied and implemented in cities such as San Francisco (see Appendix A, Bikeway Planning and Design). While these signs and markings do not alter the roadway geometry, they do provide a higher degree of visibility for cyclists, help to position cyclists outside of the door zone where on-street parking exists, and alert motorists to expect cyclists to be sharing the travel lane. The proposed Class III Shared Use segments are viewed as important links in the overall citywide bikeway network.

The section that follows identifies the recommended network projects and provides project sheets that describe the specific elements each project and some of the primary design and implementation issues. Recommended projects have been broken down into six categories: 1) Class I Bike Path Projects, 2) Arterial Bikeway Projects, 3) Central Business District Bikeway Projects, 4) Intersection/Interchange Improvement Projects, 5) Neighborhood Class III Bike Route Projects, and 6) Other Bicycle Network Enhancement Projects. A list of all the recommended projects contained in this chapter is provided under “Bikeway Project List” on the following page.

A complete street-by-street listing of the proposed new bikeway facilities with segment lengths and cost estimates is provided in Chapter 6, Implementation.

5.4 BIKEWAY PROJECT LIST AND PROJECT SHEETS

Class I Bike Path Projects

- Farwell Drive Path
- Fremont Boulevard to Dixon Landing Connector
- Hetch Hetchy Trail Extension and Enhancement
- Union Pacific Rail Trail
- Von Euw Common to Alameda Creek Connector Path

Arterial Bikeway Projects

- Blacow Road Class III Shared Use Enhancements
- Central Avenue Bike Lanes
- Fremont Boulevard Bike Lane Improvements
- Fremont Boulevard Class III Shared Use Enhancements
- Mission Boulevard Bike Lane Improvements
- Mission Boulevard Class III Shared Use Enhancements
- Mowry Avenue Bike Lane Improvements
- Mowry Avenue Class III Shared Use Enhancements
- Niles Boulevard Class III Shared Use Enhancements
- Niles Canyon Road Class III
- Osgood Road Bike Lane Improvements
- Paseo Padre Parkway Bike Lane Improvements
- Peralta Boulevard Bike Lanes
- Warm Springs Boulevard Class III Improvements

Central Business District Bikeway Projects

- Beacon Avenue/Liberty Street/State Street Bike Lanes
- Civic Center Drive Bike Lanes
- Walnut Avenue/Argonaut Way Bike Lanes

Intersection/Interchange Improvement Projects

- Class II Freeway Interchange Improvements
- Enhancing Intersections with Dropped Bike Lanes

Neighborhood Class III Bike Route Projects

- Neighborhood Bike Route Network

Other Bicycle Network Enhancement Projects

- Citywide Bikeway Wayfinding Signage Program
- Maintenance of Existing Bicycle Facilities
- Multi-Jurisdictional BART Connection Signage Projects
- Traffic Signal Enhancements

CLASS I BIKE PATH PROJECTS

FARWELL DRIVE PATH

The proposed Farwell Drive to Lemke Place path would reconstruct the trail running through the greenbelt area parallel to Farwell Drive and behind Kennedy High School. The path would provide a link through the existing residential neighborhood and would serve as a recreational asset for all Fremont residents.

Project Status:

Farwell Drive to Lemke Place Pedestrian and Bicycle Path Improvements Project was included as a project in the 2002 Fremont Bicycle and Pedestrian Master Plan. The purpose of the project was to reconstruct the pedestrian and bicycle trail in the greenbelt area between a residential development and Kennedy High School. The project was originally scheduled to begin in the 2004-2005 fiscal year but was defunded due to city cutbacks.

Recommended Actions:

- Enhance and improve the Class I path running along the greenbelt from Farwell Drive to Lemke Place.

CLASS I BIKE PATH PROJECTS**FREMONT BOULEVARD TO DIXON LANDING CONNECTOR**

The southern segment of Fremont Boulevard currently terminates just south of Lakeview Boulevard on the west side of I-880. At this time, there is no on-street connection to Dixon Landing Boulevard in Milpitas. An existing Class III Bike Route is present along Fremont Boulevard from Cushing Parkway to the terminus. An existing Bay Trail segment extends to the west of Fremont Boulevard, also terminating near Lakeview.

Two options are possible for making this important bicycle connection from Fremont Boulevard to Dixon Landing Road. The first would be an on-street facility and Class I trail (west of the roadway) that would be developed when the extension of Fremont Boulevard occurs. This extension, which is the currently identified Bay Trail alignment, is expected to occur as part of parcel development in this area, and the City should ensure that an on-street bikeway is incorporated into the design of the future roadway.

The second option would be a Class I off-street bikeway connection that would not be dependent on future development. This Class I path could be developed as a segment of the San Francisco Bay Trail. The proposed Bay Trail alignment would run west of Fremont Boulevard, generally following Coyote Creek, connecting to Dixon Landing Road. The Bay Trail route would require a crossing of Coyote Creek, and a feasibility study to evaluate the exact alignment of the path, environmental study, constructability, construction project cost and maintenance cost to the City.

Project Status:

The City of Fremont's 2002 Bicycle and Pedestrian Plan notes the Bay Trail Alternative Alignment that includes bicycle lanes and a separate bicycle and pedestrian path along a section of Fremont Boulevard.

Recommended Actions:

- The City should ensure that future development includes plans for on-street bicycle facilities along Fremont Boulevard near Dixon Landing, as a continuation of existing facilities along Fremont Boulevard.
- The City should work with the Association of Bay Area Governments to explore the feasibility of a Class I Bay Trail segment connecting Fremont with Milpitas west of Fremont Boulevard independent of the Fremont Boulevard extension into Milpitas.

CLASS I BIKE PATH PROJECTS**HETCH HETCHY TRAIL EXTENSION AND ENHANCEMENT**

The existing Plomosa Trail follows the right-of-way of the subterranean Hetch Hetchy Aqueduct through southern Fremont from Scott Creek Road to Plomosa Way. The existing trail is comprised of pedestrian pathways of varied width along a linear corridor of open landscaped areas and developed park facilities. Extending and enhancing this trail would provide residents of southern Fremont with an additional north-south route. An extended Plomosa/Hetch Hetchy Trail would connect existing Class II facilities along Scott Creek road with existing Class III facilities along Warren Avenue. An enhanced Plomosa/Hetch Hetchy Trail would provide a Class I path linking the numerous parks located along the right-of-way. As part of the trail extension and enhancement, attention should be paid to the mid-block crossings along the Plomosa Trail that would require crossing enhancements for the bike path project.

Recommended Actions:

- The City should explore the feasibility of an extension of Class I facilities along the Hetch Hetchy right-of-way through southern Fremont, from Scott Creek Road to Warren Avenue.
- The entire length of the Plomosa/Hetch Hetchy Trail should be enhanced to ensure proper Class I width and paving specifications for bicyclist and pedestrian safety.
- The trail enhancements should include crossing enhancements along the route, such as high visibility crosswalks.

CLASS I BIKE PATH PROJECTS**UNION PACIFIC RAIL TRAIL**

The proposed Union Pacific Rail Trail would follow current and future abandoned Union Pacific Railroad corridors between Warren Avenue in the south and Clark Drive in the north, a total of 6.5 miles. Some segments of the corridor for the proposed Class I facility will be abandoned in 2006. A feasibility study has been proposed to examine the potential of this rail trail project, and the compatibility of the project with the BART extension to Warm Springs and Santa Clara County. The City has entered into negotiations with Union Pacific for a right-of-way exchange as part of an ongoing grade separation project at Washington Boulevard and Paseo Padre Parkway. The proposed right of way exchange would provide the City with a 1.3 mile segment adjacent to Central Park to construct a bicycle/pedestrian trail and initial segment of the larger proposed trail project. The proposed project segments are prioritized as follows:

1) From Mission Boulevard to Paseo Padre Parkway.

A portion of the Mission Boulevard to Paseo Padre Parkway trail section includes the planned acquisition of 7,300 feet of the UPRR line for the Grade Separation project. Staff is in negotiations for a right-of-way exchange with Union Pacific for the property.

2) From Paseo Padre Parkway to Washington Boulevard.

This segment of the trail will run along the abandoned UPRR line and will be acquired as part of the grade separation project. The feasibility study will evaluate access to Washington Boulevard and Paseo Padre Parkway.

3) From Niles (Clarke Drive/Old Canyon Road) to Vallejo Mills Park to Mission Boulevard.

Clarke Drive is the proposed northern boundary of the rail trail project. The entrance to the proposed rail trail is one block from the Alameda Creek staging area off of Old Canyon Road. The feasibility study will evaluate the cost of acquiring right-of-way in the abandoned UPRR rail corridor and would evaluate access to the trail.

4) From Washington Boulevard to Grimmer Boulevard.

There is available right of way west of the abandoned UPRR right of way. Additional private property may need to be acquired for adequate trail width.

5) From South Grimmer Boulevard to South City Limits.

Private property would need to be acquired for adequate right-of-way along this segment of trail. There is also the potential for trail access issues along this segment, as well as the potential need for hazard material clean-up.

The existing rail right of way is an excellent candidate for a rail trail project and if viable will improve the city's bicycle and pedestrian network. The proposed project would improve bikeway continuity and connectivity to major activity centers, as well as providing connections to all major east-west roadways in the City, benefiting bicycle commuters, casual, and recreational users. As noted above, a feasibility study will be necessary prior to project implementation.

Recommended Actions:

- The City pursue the installation of a Class I facility along the Union Pacific Railroad right-of-way from Warren Avenue to Clark Drive. As an initial step, the City should proceed with the proposed feasibility study.

CLASS I BIKE PATH PROJECTS

VON EUW COMMON TO ALAMEDA CREEK CONNECTOR PATH

The Von Euw Common to Alameda Creek Regional Trail connector path would provide an additional access point to the Alameda Creek Regional Trail from northeastern Fremont. The path would connect the recommended Class II facilities along Peralta Boulevard with the Alameda Creek Regional Trail via Shinn Street and Von Euw Common. This connection may require the City to obtain an access easement through private property.

Recommended Actions:

- The City should explore the feasibility of installing a Class I path between Von Euw Common and the Alameda Creek Regional Trail.

ARTERIAL BIKEWAY PROJECTS

BLACOW ROAD CLASS III SHARED USE ENHANCEMENTS

LOCATION: BLACOW ROAD BETWEEN MOWRY AVENUE AND GRIMMER BOULEVARD

An existing Class III route runs along frontage roads parallel to Blacow Road between Mowry Avenue and Grimmer Boulevard. Because the frontage roads are not continuous along Blacow Road, bicyclists must transition between frontage roads as they proceed along the Blacow route. It is recommended that Class III “Shared Use” facilities be installed to replace the existing Class III route along Blacow Road’s frontage roads.

Recommended Actions:

- Class III “Shared Use” signage and stenciling should be installed along Blacow Road from Mowry Avenue to Grimmer Boulevard, replacing the existing frontage road route along this segment.

ARTERIAL BIKEWAY PROJECTS**CENTRAL AVENUE BIKE LANES****LOCATION: CENTRAL AVENUE BETWEEN I-880 AND FREMONT BOULEVARD**

It is recommended that a Class II facility be installed along the entire length of Central Avenue within Fremont city limits, from I-880 to Fremont Boulevard. The Central Avenue corridor is an integral part of the Fremont BART to Dumbarton Bridge route, as well as being one of the few non-interchange overcrossings of I-880 (See BART to Dumbarton Connector Project). Accommodating bike lanes may require roadway widening, or the narrowing or elimination of travel or parking lanes along some portions of Central Avenue. If a Class II facility is determined to be infeasible, Class III “Shared Use” striping, stenciling and signage should be installed along this segment to complete this network connection between Fremont and Newark.

Project Status:

Class II bike lanes are already slated to be installed on Central Avenue on a segment between Fremont Boulevard and Joseph Street as part of the Central Avenue Widening Project.

Recommended Actions:

- The City should explore the feasibility of installing Class II facilities along the entire length of Central Avenue within Fremont city limits, from I-880 to Fremont Boulevard. If Class II facilities are not feasible, Class III “Shared Use” signage and stenciling is recommended as an alternative.

ARTERIAL BIKEWAY PROJECTS**FREMONT BOULEVARD BIKE LANE IMPROVEMENTS**

Fremont Boulevard is a major north-south thoroughfare for bicyclists and vehicular traffic. Existing bicycle facilities along Fremont Boulevard form an incomplete travel corridor, with frequent gaps in the facilities, along with changes in the type of facility. At the northern end of Fremont Boulevard, Class II facilities exist from the Union City border to Enea Court, and Class III facilities exist between Nicolet and Alder Avenues, between Country Drive and Washington Boulevard, and between Grimmer Boulevard and Irvington Avenue. Some Class II facilities exist on south Fremont Boulevard, south of Irvington Avenue to Industrial Place, and Class III facilities resume south of Cushing Parkway and run to the terminus of Fremont Boulevard. The bikeway facilities proposed for Fremont Boulevard would increase connectivity and enhance bicyclist safety along this important route.

LOCATION: FREMONT BOULEVARD BETWEEN ENEA COURT AND THORNTON AVENUE

Traveling south on Fremont Boulevard, there are no bike lanes between Enea Court and Nicolet Avenue. A short segment of Class III route runs from Nicolet to Alder Avenue, in front of American High School. There are no existing facilities immediately south of Alder. The installation of bicycle lanes would enhance the connectivity of the bicycle facilities along Fremont Boulevard. The existing Class III segment would be replaced with Class II signage and striping, resulting in a more continuous facility.

Project Status:

The 2002 City of Fremont Bicycle and Pedestrian Master Plan lists Fremont Boulevard between Enea Court and Decoto Road among its potential projects. These improvements have received TFCA grant funding and are currently in the design stages.

Recommended Actions:

- **Install Class II “Bike Lane” signage, stenciling and striping along Fremont Boulevard from Enea Court to Thornton Avenue in accordance with the project proposed in the 2002 Bicycle and Pedestrian Master Plan.**

LOCATION: FREMONT BOULEVARD FROM EGGERS DRIVE TO MOWRY AVENUE

Fremont Boulevard from Thornton Avenue to Mowry Avenue does not have existing bicycle lanes or signage for bicyclists. The installation of Class II Bike Lanes along this segment of Fremont Boulevard would connect proposed facilities to the north with existing facilities to the south, and would provide access to Washington High School.

Project Status:

Construction of Class II bike lanes on Fremont Boulevard from Eggers Drive to Mowry Avenue has received TFCA grant funding and is currently out to bid for construction.

Recommended Actions:

- **Install Class II “Bike Lane” signage, stenciling and striping along Fremont Boulevard from Eggers Drive to Mowry Avenue as noted above.**

LOCATION: FREMONT BOULEVARD BETWEEN INDUSTRIAL PLACE AND CUSHING PARKWAY

No northbound bicycle lane exists along Fremont Boulevard in front of New United Motor Manufacturing Incorporated. This segment of Fremont Boulevard features a lengthy right turn lane. This causes a gap in existing facilities along Fremont Boulevard. The installation of a bike lane pocket along the right turn lane will link the segments of Fremont Boulevard Bike facilities north and south of I-880 and Industrial Place, and will increase network connectivity. Additionally, the existing lanes along the I-880 overpass are worn and in need of re-striping. This is noted under Maintenance of Existing Bicycle and Pedestrian Facilities in this chapter.

Recommended Actions:

- **Install a Class II “Bike Lane” pocket along northbound Fremont Boulevard between Industrial Place and Cushing Parkway to provide more continuous bicycle facilities along Fremont Boulevard.**

ARTERIAL BIKEWAY PROJECTS**FREMONT BOULEVARD CLASS III SHARED USE ENHANCEMENTS****LOCATION: FREMONT BOULEVARD BETWEEN THORNTON AVENUE AND EGGERS DRIVE**

Fremont Boulevard between Thornton Avenue and Eggers Drive does not currently feature bicycle facilities. However the location of the Amtrak/ACE Rail Station along this stretch of Fremont Boulevard makes the route a destination for multi-modal transit users. It is recommended that Class III “Shared Use” signage and stenciling be installed along Fremont Boulevard from Thornton Avenue to Eggers Drive, increasing the connectivity of both the bicycle network and Fremont’s transit options.

Recommended Actions:

- Class III “Shared Use” signage and stenciling should be installed along Fremont Boulevard from Thornton Avenue to Grimmer Drive, providing access to the Amtrak/ACE Rail Station and providing increased connectivity along Fremont Boulevard.

LOCATION: FREMONT BOULEVARD BETWEEN WALNUT AVENUE AND GRIMMER BOULEVARD

Class III bike routes already exist along frontage roads running parallel to Fremont Boulevard between Walnut Avenue and Grimmer Boulevard. Frontage road bike routes are difficult for bicyclists to navigate because of their discontinuous nature, as bicyclists must merge from one frontage road to another throughout their route. It is recommended that Class III “Shared Use” signage and stenciling be installed along Fremont Boulevard from Walnut Avenue to Grimmer Boulevard, replacing the existing frontage road route.

Recommended Actions:

- Class III “Shared Use” signage and stenciling should be installed along Fremont Boulevard from Walnut Avenue to Grimmer Boulevard, replacing the existing frontage road route along this segment.

ARTERIAL BIKEWAY PROJECTS**MISSION BOULEVARD BIKE LANE IMPROVEMENTS**

Mission Boulevard runs along the eastern edge of Fremont, and is a significant north-south route for bicyclists and motorists alike. From I-680 north, Mission Boulevard also serves as SR-238. Mission Boulevard's existing Class II bikeway facility is nearly continuous from the Union City border in the north to I-680 in the South. There are existing gaps in the facility between I-680 and Starr Street and south of Paseo Padre Parkway. The proposed improvements would address gaps in the facility and increase connectivity along the Mission Boulevard bikeway.

LOCATION: MISSION BOULEVARD AT WALNUT AVENUE

The bicycle lane striping should begin several feet earlier than the existing striping.

Recommended Actions:

- Install and enhance Class II “Bike Lane” signage, stenciling and striping along Mission Boulevard at the intersection of Walnut Avenue.

LOCATION: MISSION BOULEVARD FROM WASHINGTON BOULEVARD TO PINE STREET

Between Washington Boulevard and Pine Street, Mission Boulevard features existing Class II bike lanes, one travel lane in each direction and one center turn lane running the length of the segment. While the existing bike lanes meet Caltrans minimum standards for Class II bike lanes, some cyclists have stated that they are not comfortable riding in a bike lane adjacent to the car door zone. The City should examine the feasibility of providing bicyclists with additional bike lane width in this location.

Recommended Actions:

- The City should explore the feasibility of widening the Class II bike lane to a 6 foot width along Mission Boulevard from Washington Boulevard to Pine Street.

LOCATION: MISSION BOULEVARD BETWEEN PINE STREET AND PASEO PADRE PARKWAY

Bicycle lanes drop off at several places along Mission Boulevard between Pine and Paseo Padre Parkway. The road appears wide enough in both directions to accommodate the addition of bike lanes along the discontinuous stretches of Mission. Enhancement of this existing facility would increase network connectivity, especially in southern Fremont, where the number of neighborhood routes is limited due to topography.

Recommended Actions:

- Install and enhance Class II “Bike Lane” signage, stenciling and striping along Mission Boulevard between Pine Street and Paseo Padre Parkway, linking discontinuous segments.

LOCATION: MISSION BOULEVARD FROM WARM SPRINGS TO THE I-880 OVERCROSSING

Mission Boulevard heading west to the I-880 overcrossing has high-speed merge ramps that do not provide a lane for bicyclists. This ramp only allows vehicles to travel west. Bicyclists may share the travel lane heading west, but there is currently no way for bicyclists or motorists to return over I-880 along Mission Boulevard heading east. This overcrossing is currently undergoing a redesign process. A five foot wide bicycle/shoulder lane will be provided in both directions if the interchange is reconfigured according to current plans.

Recommended Actions:

- The City should ensure that the redesigned interchange features Class II bicycle facilities as proposed and is adequately signed for bicycle use.

ARTERIAL BIKEWAY PROJECTS**MISSION BOULEVARD CLASS III SHARED USE ENHANCEMENTS****LOCATION: MISSION BOULEVARD AT I-680 (NORTH) AND STARR STREET**

There is a gap in the existing Mission Boulevard Class II facility between Starr Street and the northern side of the I-680 (North) underpass. Although the existing facility is a Class II bikeway, due to constrained road width through the underpass and with a bus stop on the eastern side, Class III “Shared Use” signage and stenciling is recommended for this segment.

Recommended Actions:

- The City should install Class III “Shared Use” signage and stenciling along this constrained segment and underpass.

LOCATION: MISSION BOULEVARD RAILROAD UNDERPASS FROM STEVENSON TO LAS PALMAS

South of Stevenson, an old railroad underpass forces Mission Boulevard to narrow to 10 foot travel lanes in the southbound direction and 12 foot travel lanes in the northbound direction. The bicycle lanes drop off before the underpass in both directions. Both northbound and southbound travel lanes are too narrow to accommodate the addition of bicycle lanes. The pedestrian tunnel that lies to the west of Mission Boulevard may be an alternative for bicyclists (although it would only be functional for bicyclists traveling in the southbound direction), and the City may pursue further study of this option. In the interim, Class III “Shared Use” signage and stenciling should be installed along Mission Boulevard from Stevenson to Las Palmas. In addition to signage and stenciling, repairing poor pavement in this location would provide a safety enhancement for bicyclists.

Recommended Actions:

- Install Class III “Shared Use” signage and stenciling along Mission Boulevard from Stevenson to Las Palmas. Ensure that adequate signage is installed to alert motorists to the need to share the road through the railroad underpass. Repair poor pavement surfaces.

ARTERIAL BIKEWAY PROJECTS**MOWRY AVENUE BIKE LANE IMPROVEMENTS****LOCATION: MOWRY AVENUE FROM CIVIC CENTER DRIVE TO PERALTA BOULEVARD**

There are currently no existing bicycle lanes on Mowry Avenue from Civic Center Drive, near the BART station, to Parkside Drive. At Waterside Circle, the existing northbound bike lane runs into the right turn lane, where the bicycle lane drops off. Consistent northbound bicycle lanes along this segment of Mowry would aid bicyclists traveling from the BART Station and Washington Hospital, at the corner of Mowry and Civic Center Drive. It is recommended that Class II bike lanes be installed along this segment.

Traveling southbound on Mowry Avenue, the right lane merges with Peralta Boulevard. Cyclists wishing to continue along Mowry Avenue must merge across the right lane where Mowry intersects Peralta. Additional signage would alert motorists to the movement of bicycles through this intersection, enhancing bicyclist safety.

Recommended Actions:

- Install a “Yield to Bicyclists” sign on the southwest corner of Mowry Avenue and Peralta Boulevard.
- Install and enhance Class II “Bike Lane” signage, stenciling and striping along Mowry Avenue from Civic Center Drive to Parkside Drive

LOCATION: MOWRY AVENUE BETWEEN I-880 AND FREMONT BOULEVARD

There are existing Class III facilities along the frontage roads which parallel Mowry Avenue between I-880 and Fremont Boulevard. Due to the configuration of the frontage roads, the existing route is essentially comprised of discontinuous segments. Bicyclists are forced to navigate between different frontage road segments as they proceed east or west along Mowry. It is recommended that the City examine the feasibility of replacing the existing Class III frontage road routes with Class II bike lanes along the main roadway segment. If a Class II facility is not feasible along this segment of Mowry, Class III “Shared Use” signage and stenciling should be installed along Mowry Avenue, and any route markings should be removed from the frontage roads.

Recommended Actions:

- The City should explore the feasibility of installing Class II facilities along Mowry Avenue between I-880 and Fremont Boulevard, replacing existing frontage road Class III routes. If Class II facilities are not feasible along this segment of Mowry Avenue, Class III “Shared Use” signage and stenciling may be installed.

ARTERIAL BIKEWAY PROJECTS**MOWRY AVENUE CLASS III SHARED USE ENHANCEMENTS****LOCATION: MOWRY AVENUE BETWEEN CIVIC CENTER DRIVE AND BLACOW ROAD**

The Mowry Avenue route includes discontinuous existing route segments along Mowry Avenue, with significant gaps, such as the segment between Argonaut Way and Paseo Padre Boulevard. While alternative Class II routes, such as Walnut Avenue, are proposed to serve as an east west travel corridor, some bicyclists may still choose to ride along Mowry. Thus, Mowry Avenue's existing facilities should be extended and improved, featuring standard Class III signage and stenciling between Civic Center Drive and Blacow Road.

Project Status:

The 2002 City of Fremont Bicycle and Pedestrian Master Plan selected the Mowry Avenue bike lane/ bike route, between Civic Center Drive and Blacow Road as one of its potential projects. This project proposed, in compliance with the City's General Plan, the installation of bike lane/ bike route signs to fill gaps on Mowry Avenue between Blacow Road and Mission Boulevard. Currently there is no re-striping project planned.

Recommended Actions:

- **Install and enhance Class III “Shared Use” signage and stenciling along Mowry Avenue from Civic Center Drive to Blacow Road. Ensure that adequate signage is installed to alert motorists to the need to share the road along these segments of Mowry Avenue.**

ARTERIAL BIKEWAY PROJECTS**NILES BOULEVARD CLASS III SHARED USE ENHANCEMENTS****LOCATION: NILES BOULEVARD BETWEEN NURSERY AVENUE AND MISSION BOULEVARD**

The existing Class II bike lanes along Niles Boulevard are present from just south of the Union City border to Nursery Avenue. The extension of the existing Niles Boulevard facilities would connect to existing Union City facilities along Alvarado-Niles Road in Union City. These facilities would link to the proposed Niles Boulevard Class III “Shared Use” facilities, running from Nursery Avenue south to Mission Boulevard. The route would provide access from other areas of Fremont to the Niles District, via the existing facilities on Mission Boulevard. The Niles Boulevard Class III route also provides access to Niles Community Park along H Street. In order to make this connection, Class III “Shared Use” signage and stenciling will be necessary on the railroad overpass along Niles Road at the Union City border. In addition, “Shared Use” signage and stenciling should be installed along the route through the Niles District, with adequate signage particularly located at the Niles Boulevard railroad underpass, just west of Mission Boulevard.

Recommended Actions:

- **Install Class III “Shared Use” signage and stenciling along Niles Boulevard, from Nursery Avenue to Mission Boulevard, and on H Street from Niles Boulevard to Niles Community Park. Ensure adequate signage is installed at the Niles Boulevard railroad underpass, west of Mission Boulevard, to alert motorists to share the road.**

ARTERIAL BIKEWAY PROJECTS

NILES CANYON ROAD CLASS III

LOCATION: NILES CANYON ROAD FROM MISSION BOULEVARD TO CITY LIMITS

The proposed Niles Canyon Road route would begin at the intersection of Niles Canyon Road and Mission Boulevard. This route provides bicyclists with connections to recreational opportunities in the Niles Canyon area, linking to popular cycling roads such as Palomares and Calaveras. Niles Canyon Road also serves as a bicycle transportation route connecting to Sunol, Pleasanton and Livermore. The proposed Niles Canyon route is identified in the Alameda County Bicycle Plan as a Class III route. It is recommended that Class III signage and stenciling be installed along Niles Canyon Road in Fremont. Enhancing the signage along this route will alert motorists to “Share the Road” and aid in bicyclists safety.

Recommended Actions:

- **Install and enhance Class III signage and stenciling along Niles Canyon Road, from Mission Boulevard to Palomares Road, alerting motorists to the need to share the road, especially through constrained roadways, such as railroad underpasses.**

ARTERIAL BIKEWAY PROJECTS**OSGOOD ROAD BIKE LANE IMPROVEMENTS****LOCATION: OSGOOD ROAD BETWEEN WASHINGTON AND SOUTH GRIMMER BOULEVARD**

Osgood Road runs south from Washington Boulevard to South Grimmer Boulevard where it becomes Warm Springs Boulevard. The existing route is comprised of discontinuous segments beginning at Blacow Road. Along the stretch of Osgood from Washington to Auto Mall Parkway there is a significant gap in the existing bike route. The roadway widths and lane configurations shift throughout this stretch. In addition, the travel lanes are not consistently demarcated.

Project Status:

The 2002 City of Fremont Bicycle and Pedestrian Master Plan notes the Osgood Road Street Improvements, between South Grimmer Boulevard and Washington Boulevard, among its potential projects. As part of these street improvements the City will be installing bike lanes and sidewalks on each side, four vehicle lanes and a two-way left-turn lane. This project is currently under review by Caltrans with construction estimated to begin June 2006.

Recommended Actions:

- **Install continuous Class II “Bike Lane” signage, stenciling and striping along Osgood Road between Washington Boulevard and South Grimmer Boulevard, in accordance with the 2002 Bicycle and Pedestrian Master Plan project.**

ARTERIAL BIKEWAY PROJECTS**PASEO PADRE PARKWAY BIKE LANE IMPROVEMENTS****LOCATION: PASEO PADRE PARKWAY BETWEEN DECOTO ROAD AND THORNTON AVENUE**

Portions of the bicycle lane on northbound Paseo Padre Parkway, approaching Thornton, fall below the minimum width for bicycle lanes, specifically at the location of sewer grates. The modification of these bicycle lanes to provide sufficient width is currently in the design stage. The project is estimated to be completed in October 2005.

Recommended Actions:

- The City should ensure that the redesign of the Paseo Padre Parkway bike lanes between Decoto Road and Thornton Avenue provides adequate bike lane width from gutter pans and at sewer grates.

LOCATION: PASEO PADRE PARKWAY FROM WASHINGTON BOULEVARD TO DRISCOLL ROAD

The installation of bike lanes along Paseo Padre Parkway from Washington Boulevard to Driscoll Road is proposed in the 2002 Fremont Bicycle and Pedestrian Plan. This proposed Class II facility would provide a connection between the Mission San Jose District in the south, and other parts of Fremont north of I-680. The installation of Class II lanes would provide convenient facilities for bicyclists, but may require the elimination of parking along this segment of Paseo Padre Parkway. The City should examine the feasibility of a Class II facility along this segment. As an alternative to a Class II facility, Class III “Shared Use” signage and stenciling may be used along Paseo Padre Parkway from Washington Boulevard to Driscoll Road.

This segment of Paseo Padre Parkway includes the overcrossing of I-680. The overcrossing facilities should be consistent with other facilities installed along the rest of the segment.

Recommended Actions:

- The City should explore the feasibility of installing Class II bike lanes along Paseo Padre Parkway between Washington Boulevard and Driscoll Road, recognizing that the installation of Class II facilities may require the elimination of on-street parking along this segment. If Class II facilities are not feasible for this location, Class III Share Use signage and stenciling is recommended.

LOCATION: PASEO PADRE PARKWAY FROM GRIMMER BOULEVARD TO STEVENSON BOULEVARD

The segment of Paseo Padre Parkway from Grimmer Boulevard to Stevenson Boulevard connects bicyclists with Central Park. There are no existing bicycle facilities along Paseo Padre Parkway at this location. Installation of Class II facilities may require the elimination of parking. If Class II facilities are not feasible, it is recommended that Class III “Shared Use” signage and stenciling be used to alert both bicyclists and motorists that they must share the right lane.

Project Status:

The 2002 City of Fremont Bicycle and Pedestrian Plan notes the Paseo Padre Parkway Bike Route signs near Grimmer as a potential project. The plan states that southbound Paseo Padre Parkway near Grimmer is a signed bike route but that the northbound route has no bike route signs. This project is being incorporated into the 2004-2005 TDA Article 3 grant funded project to re-stripe existing bicycle lanes and to update existing bicycle signing.

Recommended Actions:

- **The City should explore the feasibility of installing Class II bike lanes along Paseo Padre Parkway between Grimmer and Stevenson, recognizing that the installation of Class II facilities may require the elimination of on-street parking along this segment. If Class II facilities are not feasible for this location, Class III “Shared Use” signage and stenciling is recommended.**

ARTERIAL BIKEWAY PROJECTS**PERALTA BOULEVARD BIKE LANES****LOCATION: PERALTA BOULEVARD BETWEEN FREMONT BOULEVARD AND MOWRY AVENUE**

Recommended Class II improvements for Peralta Boulevard would extend from Fremont Boulevard to Mowry Avenue. This segment of Peralta Boulevard is designated as State Route 84 (SR-84) and under the jurisdiction of Caltrans. Future re-alignment of SR-84 between I-880 and Mission Boulevard in Union City would result in Peralta Boulevard being decommissioned as SR-84 and jurisdiction returned to the City of Fremont. The SR-84 alignment is currently being studied, and no schedule for project approval or implementation is known at this time. Under current conditions, the installation of bike lanes on this segment of Peralta Boulevard would require coordination with and approval of Caltrans. A Class II facility on Peralta would provide an important connection between north Fremont Boulevard and eastern Mowry Avenue, linking the Centerville District (and Amtrak/ACE Station) with destinations along Mission Boulevard or in the Niles District.

Recommended Actions:

- The City should work with Caltrans to study the feasibility of installing Class II bike lanes on Peralta Boulevard between Fremont Boulevard and Mowry Avenue. If Class II facilities are not feasible for this location, Class III “Shared Use” signage and stenciling is recommended.

ARTERIAL BIKEWAY PROJECTS**WARM SPRINGS BOULEVARD CLASS III IMPROVEMENTS****LOCATION: WARM SPRINGS BOULEVARD BETWEEN GRIMMER AND MISSION BOULEVARD**

Between Grimmer and Mission Boulevard on Warm Springs Boulevard, the existing Class III facilities are discontinuous. The gaps in this Class III route should be addressed by installing additional Class III “Bike Route” signage and stenciling along this segment, completing the bikeway network along Warm Springs Boulevard.

Project Status:

The City of Fremont 2002 Bicycle and Pedestrian Plan notes three projects along Warm Springs Boulevard. One is the installation of bike route signs in conformance with the City’s General Plan and the Alameda County Bicycle Plan. Currently there are no projects planned. Another project is the installation of bike route signs from Mission Boulevard to Mission Court. Southbound Warm Springs Boulevard is a signed bike route but northbound has no bike route signs. There are currently no plans for this project. The third project is a boulevard widening from Corporate Way to South of Brown Road. In order to improve access to the proposed Warm Springs BART Station, it is suggested that Warm Springs will be widened. Installation of bike route signs or bike lane installation is considered part of the project. This project is being incorporated in the BART Warm Springs Project of Street Capitol Improvement Projects.

Recommended Actions:

- **Install and enhance Class III “Bike Route” signage and stenciling along Warm Springs Boulevard between Grimmer and Mission Boulevard, in accordance with the 2002 Bicycle and Pedestrian Master Plan project.**

CENTRAL BUSINESS DISTRICT BIKEWAY PROJECTS

BEACON AVENUE/LIBERTY STREET/STATE STREET BIKE LANES

LOCATION: BEACON AVENUE BETWEEN FREMONT BOULEVARD AND LIBERTY STREET

LOCATION: LIBERTY STREET BETWEEN WALNUT AVENUE AND CAPITOL AVENUE

LOCATION: STATE STREET BETWEEN MOWRY AVENUE AND BEACON AVENUE

The Fremont Central Business District (CBD) Concept Plan calls for the installation of Class II bike lanes on several roadways in the block bounded by Mowry Avenue, Walnut Avenue, Fremont Boulevard, and Paseo Padre Parkway. These bike lane facilities would connect to and compliment the pedestrian-oriented Main Street proposed for Capitol Avenue within the CBD.

Recommended Actions:

- As improvements to the land uses, streetscape, and roadways occur in the Central Business District per the City's Concept Plan, install Class II "Bike Lane" signage, striping, and stencils along Beacon Avenue, Liberty Street, and State Street as recommended.

CENTRAL BUSINESS DISTRICT BIKEWAY PROJECTS

CIVIC CENTER DRIVE BIKE LANES

LOCATION: CIVIC CENTER DRIVE BETWEEN STEVENSON BOULEVARD AND MOWRY AVENUE

Civic Center Drive is one of the major routes to access the Fremont BART station. Providing a Class II bike lane along the length of Civic Center Drive would directly link other bicycle facilities to destinations like Washington Hospital and Fremont BART. The Civic Center Drive bike lanes would connect bicycle facilities along Stevenson Boulevard and Mowry Avenue, contributing to the overall connectivity of the Fremont bicycle network. If Class II Lanes are not feasible for this segment, Class III “Shared Use” signage and stenciling may also be installed.

Recommended Actions:

- **Install Class II “Bike Lane” signage, striping, and stencils along Civic Center Drive from Mowry Avenue to Stevenson Boulevard. If Class II facilities are not feasible, Class III “Shared Use” signage and stenciling is recommended as an alternative.**

CENTRAL BUSINESS DISTRICT BIKEWAY PROJECTS

WALNUT AVENUE/ARGONAUT WAY BIKE LANES

LOCATION: WALNUT AVENUE BETWEEN FREMONT BOULEVARD AND ARGONAUT WAY

LOCATION: ARGONAUT WAY BETWEEN WALNUT AVENUE AND MOWRY AVENUE

The Fremont Central Business District (CBD) Concept Plan calls for the extension of Class II bike lanes on Walnut Avenue to the west of Fremont Boulevard, which would connect to the recommended Class II facilities on Argonaut Way. These bike lane facilities would connect to and compliment “The Hub” area of retail uses within the CBD.

Recommended Actions:

- As improvements to the land uses, streetscape, and roadways occur in the Central Business District per the City’s Concept Plan, install Class II “Bike Lane” signage, striping, and stencils along Walnut Avenue and Argonaut Way as recommended.

INTERSECTION/INTERCHANGE IMPROVEMENT PROJECTS

CLASS II FREEWAY INTERCHANGE IMPROVEMENTS

LOCATION: CITYWIDE

The City of Fremont is flanked by two freeways, I-680 and I-880, and the numerous interchange overpasses and underpasses present challenges to bicyclists. The most common challenge to bicycling through an interchange is the lack of clearly demarcated bicycle lanes or bicycle guidance. For example, at Mowry Avenue and I-880, the existing lanes drop from both directions of travel as the overpass is approached. Without the clear delineation of Class II facilities, pavement stencils, or signage, bicyclists may be unsure about proper positioning, and motorists may be unaware that bicycles will share the same segment of roadway. In locations where bike lanes are present, most interchanges have right turn only lanes approaching the ramps, requiring bicyclists to merge away from the curb. Many of the existing right turn lanes with bike lane configurations are inconsistent with standards outlined in the Manual on Uniform Traffic Control Devices (MUTCD), which place the bike lane on the left side of the right turn lane. Some interchanges may require the re-stripping of existing lanes to bring them into conformance with the MUTCD standards.

The following is a list of Fremont freeway interchanges in need of Class II facility improvements and recommendations for those improvements:

- **Auto Mall Parkway at I-880**
Re-stripe and sign bike lanes in both directions of travel per MUTCD standards.
- **Central Avenue at I-880**
Repair and maintain striping and signage.
- **Cushing Boulevard/South Fremont Boulevard at I-880**
Re-stripe and sign bike lanes in both directions of travel per MUTCD standards.
- **Decoto Road at I-880**
Re-stripe and sign bike lanes in both directions per MUTCD standards. Install a bike lane between eastbound Decoto Road and northbound I-880 on/off ramps.
- **Fremont Boulevard at I-880**
Re-stripe and sign westbound Fremont Boulevard bike lane at the northbound I-880 right turn onramp, per MUTCD standards.
- **Mission Overpass at I-880**
New Warren Avenue crossing will provide bike lanes in both directions of travel. See Mission Boulevard Class III projects.
- **Mission Underpass at I-680**
Add “Share the Road” signage and stenciling along eastbound Mission Boulevard. Repair and maintain signage and stenciling in the westbound direction.
- **Mowry Avenue at I-880**
Re-stripe and sign bike lanes in both directions of travel per MUTCD standards.

- **South Grimmer Boulevard at I-680**
Repair and maintain signage and striping.
- **Stevenson Boulevard at I-880**
Re-stripe and sign bike lanes in both directions of travel per MUTCD standards.
- **Thornton Avenue at I-880**
Install bike lane signage and striping per MUTCD standards.
- **Paseo Padre Parkway at I-880**
Repair and maintain signage and striping.

INTERSECTION/INTERCHANGE IMPROVEMENT PROJECTS**ENHANCING INTERSECTIONS WITH DROPPED BIKE LANES****LOCATION: CITYWIDE**

Many of Fremont’s arterial intersections pose a challenge for bicyclists because the bicycle lanes are dropped in order to accommodate additional turning lanes or right turn islands. These islands provide a free right turn lane to vehicles while also acting as a pedestrian refuge in a large intersection. While these islands provide benefits to pedestrians, high vehicle turning speeds make merging across the right turn only lane difficult for bicyclists. Possible enhancements for locations with right turn islands include bike lane pockets adjacent to the island and signage indicating a bicycle merge area. See Appendix A for expanded enhancement information.

Dropped bicycle lanes are often a result of existing right turn islands, although they may also occur independently. If bicycle lanes or bike lane pockets cannot be accommodated through major arterial intersections, it is recommended that “Shared Use” striping and signage be installed in order to increase motorist awareness and show bicyclists where to properly position themselves for through travel.

A partial list of Fremont intersections with right turn islands or dropped bike lanes includes:

- **Auto Mall Parkway at Boyce Road**
- **Fremont Boulevard at Auto Mall Parkway**
- **Fremont Boulevard at Blacow Road**
- **Mowry Avenue at Blacow Road**
- **Mowry Avenue at Fremont Boulevard**
- **Mowry Avenue at Hastings Street**
- **Mowry Avenue at Paseo Padre Parkway**
- **Paseo Padre Parkway at Driscoll Road**
- **Paseo Padre Parkway at SR-84**
- **Stevenson Boulevard at Farwell Drive**
- **Warren Avenue at Warm Springs Boulevard**

NEIGHBORHOOD CLASS III BIKE ROUTE PROJECTS

NEIGHBORHOOD BIKE ROUTE NETWORK

LOCATION: CITYWIDE

This proposed network of Neighborhood Class III bike routes is intended to provide bicyclists with an alternative to traveling on the arterial Class II/III network. While arterial roadways typically offer more direct routes with fewer traffic controls, the higher traffic volumes and vehicle speeds on arterials may be a deterrent to less experienced bicyclists. Neighborhood Class IIIs are intended to provide routes on lower traffic residential and collector roadways that some bicyclist might find more pleasant to ride on. It is important to note that all streets in Fremont may be used by bicyclists – the designation of a network of Neighborhood Class III routes is intended to identify a set of roadways that provide optimal directness, connectivity, and crossing locations for cyclists. Class III facilities are identified by signage only, and so a thorough wayfinding signage program is recommended to ensure that cyclists can navigate the various jogs and crossings in the network. In addition to providing for a more pleasant cycling environment, the neighborhood Class III routes connect to many schools, parks, and other local destinations.

Recommended Actions:

- **Install Class III “Bike Route” signage and stenciling along each neighborhood route. Ensure that wayfinding signage is installed, directing bicyclists to other bicycle facilities and neighborhood destinations.**

Alder Avenue

The Alder Avenue route would originate in the north at Nicolet Avenue, near Los Cerritos Community Park and Center, and run south to Coronado Drive. Bike loop detectors at the intersection of Alder Avenue and Fremont Boulevard would complete the route and enhance bicyclist safety.

Beard Road/Milton Street

The Beard Road/Milton Street route would provide access to the Beard Road Staging Area along the Alameda Creek Regional Trail. The route would run north along Milton Street, then east along Beard Road. The route would connect to other bicycle facilities via the existing Paseo Padre Class II lanes.

Butano Park/Doane Street

The Butano Park Drive/Doane Street route would travel south from Omar Street, then loop north onto Doane Street. Doane Street eventually intersects Fremont Boulevard, linking bicyclists to existing facilities on Fremont Boulevard and to the proposed neighborhood route on Roberts Avenue.

Cabrillo Drive

The Cabrillo Drive route would begin at the Decoto Class II facility and head southeast, crossing Nicolet and Thornton Avenues, ending at Hansen Avenue. The route intersects the Cabrillo Trail at Patterson Park and provides access to two neighborhood schools.

Coronado Drive/Contra Costa Avenue/Hansen Avenue

Coronado Drive starts at Nicolet Avenue, runs southeast becoming Contra Costa Avenue, just east of Alder Avenue. Contra Costa Avenue dead ends at Hansen Avenue. The proposed neighborhood bike route would continue north on a trail that parallels the railroad tracks and south to Blacow Way. Two neighborhood

routes are proposed off of Hansen Avenue to the south: Cabrillo Drive to the west and San Pedro Drive to the west. Continuing east to Dusterberry Way would provide a connection to the recommended Peralta/Glenmoor route southbound. Existing conditions do not allow cyclists to cross the railroad tracks along Hansen from Dusterberry to Blacow.

Eggers Drive

An alternative to Mowry Avenue's recommended Class II facilities, the Eggers route would run along Eggers from Granville Drive in the south to Paseo Padre Parkway in the north. The Eggers route would provide a connection to the Fremont BART Station as well as other neighborhood routes on Logan Drive and Farwell Drive.

Farwell Drive/Omar Street/Robin Street

The Farwell/Omar/Robin route would run along Farwell Drive, from Central Avenue in the north, to Omar Street and finally Robin Street in the south. Additional signage along the route may be necessary at points where side streets entering Farwell, Omar or Robin are without stop signs.

High Street/Union Street/Lincoln Street

The High Street/Union Street/Lincoln Street route would run south along High Street from Grimmer Boulevard, west on Union, and south on Lincoln to Main Street, where it would connect to the Roberts Avenue route.

Logan Drive/Boone Drive

The Logan Drive/Boone Drive route would begin along Logan Drive at Central Avenue and continue southeast, crossing Mowry Avenue, until it becomes Boone Drive. This neighborhood route would link the Centerville District in the north with the southern Irvington District.

Nicolet Avenue/Isherwood Way

The Nicolet Avenue/Isherwood Way route begins north of I-880 on Isherwood Drive. The route would run north across Fremont Boulevard toward Paseo Padre Parkway, eventually linking with Alder Avenue. This route would provide an essential connection to the Quarry Lakes Regional Recreation Area over the Isherwood Bridge. The Nicolet Avenue/Isherwood Way route should become Class II bordering Quarry Lakes, and should intercept Union City's Class II facilities as Isherwood Way becomes Quarry Lakes Drive.

Parkside Drive between Paseo Padre Parkway and Mowry

The Parkside Drive route would provide access to the Fremont BART station and Washington Hospital from Paseo Padre Parkway. The route would provide an alternative for bicyclists who wish to avoid vehicular traffic on Mowry Avenue.

Peralta Boulevard/Glenmoor Drive

The Peralta/Glenmoor route would begin at Peralta heading west from Fremont Boulevard (connecting to the recommended Class II route on Peralta east of Fremont Boulevard). The route would travel west on Peralta Boulevard, jogging across Dusterberry Way, then curving south into Glenmoor Drive to cross Central Avenue. Continuing south along Glenmoor the route would connect to Eggers Drive, where a one block job east would connect to the Logan Drive route to continue southbound.

Roberts Avenue/Delaware Drive/Cedarwood Drive

The Roberts/Delaware/Cedarwood route would begin one block north of Washington Boulevard and run south along Roberts to Delaware, and then west to Cedarwood where the route turns south and connects to

Doane Street. Bicycle loop detectors are recommended at the intersection of Delaware Drive and Fremont Boulevard.

Robin Street

The Robin Street route would begin at Porter Street and run east along Robin toward Grimmer and then south where it intersects Blacow Road.

Scott Creek Road/Green Valley Road

The Scott Creek Road/Green Valley Road route would run north on Scott Creek Road from the existing Class II facility, which terminates at I-680. The route turns south on Green Valley Road and provides a neighborhood connection to Milpitas along a regional bike route.

Sundale Drive

The Sundale Drive route would begin in the north at Liberty Street and run along Sundale until it intersects Robin Street.

Whitehead Lane/Darwin Drive/Blackstone Way

The Whitehead Lane route would begin at the recommended Class III facility on Beard Street, head south and west on Whitehead/Chaucer to Darwin Drive, and continue west on Darwin across Fremont Boulevard to Blackstone Way. The route would turn south on Blackstone, west on River Street, south on Ozark Way, west on Tiburon, and south on Canal. Continuing south from Canal would connect to the recommended Cabrillo Drive Class III facility.

OTHER BICYCLE NETWORK ENHANCEMENT PROJECTS

CITYWIDE BIKEWAY WAYFINDING SIGNAGE PROGRAM

In addition to the standard Caltrans “Bike Lane” and “Bike Route” signage that is recommended to be installed on all existing and proposed bicycle facilities, the City of Fremont should consider developing its own unique wayfinding/directional signage program. These signs should include directional arrows and distance information to significant local and regional destinations and connecting bicycle facilities. Such signage programs have been successfully implemented in other cities, and could point to destinations such as the civic center, parks, schools, the BART and Amtrak stations. Wayfinding signage can have a simple or decorative design, depending on the desires of the City and residents who live on the roadways where these signs are installed. Signs should be visible and easy to read, but should also fit aesthetically within the context of the neighborhood.

Recommended Actions:

- **Compile a list of destinations and facilities to be included in the directional signage program.**
- **Develop a variety of signage designs for public evaluation. Approve the design with resident and bicyclist input.**



The City of Berkeley's Bicycle Boulevard signs provide directional and distance information using a design that has a unique purple color and is easy for bicyclists to see.

OTHER BICYCLE NETWORK ENHANCEMENT PROJECTS**MAINTENANCE OF EXISTING BICYCLE FACILITIES**

Like bikeway facilities everywhere, Fremont's bicycle facilities are in need of continual repair. Ongoing maintenance issues include: pavement repair, missing bicycle route signs, bicycle lane re-striping, trimming of trees, bushes and plants. Such improvements will ensure safer riding conditions for Fremont's cyclists.

Specific locations in need of maintenance include:

Re-striping

- Alvarado Boulevard/Fremont Boulevard North overpass at I-880
- Fremont Boulevard South overpass at I-880

Pavement/Asphalt in need of repair

- Mission Boulevard south of Stevenson Boulevard
- Mowry Avenue between Peralta and Blacow
- Paseo Padre Parkway between Central Park and Stevenson Boulevard
- Sundale Drive

Project Status:

The 2002 Fremont Bicycle and Pedestrian Master Plan noted maintenance of existing bicycle and pedestrian facilities as a potential project. This maintenance is to include restriping, replacement of missing or damaged signs, trimming of plants, pavement repair, as well as traffic signal repair of bicycle and pedestrian devices. The TDA Article 3 grant funded this project to restripe existing bicycle lanes and to update existing bicycle signing at various street sections throughout the City.

OTHER BICYCLE NETWORK ENHANCEMENT PROJECTS**MULTI-JURISDICTIONAL BART CONNECTION SIGNAGE PROJECTS**

The routes connecting the BART stations in both Fremont and Union City with the Dumbarton Bridge Bike Path travel along existing and proposed bicycle facilities in Union City, Fremont and Newark. The connection made between the BART stations and the Dumbarton Bike Path would provide an important link to the Peninsula, and the potential for extending that link to further destinations via BART. The implementation of the BART connections requires adequate signage along the recommended routes. The route from the Union City BART Station is an existing proposal. The route from the Fremont BART Station is a product of this master planning process. The following routes should be signed for BART Connections.

LOCATION: UNION CITY BART STATION TO DUMBARTON BRIDGE BIKE PATH**RECOMMENDED SIGNED ROUTE:**

- Decoto Road west to I-880
- Ardenwood Trail from I-880 west to Lake Boulevard overpass
- Lake Boulevard south to Jarvis Avenue
- Jarvis Avenue west to Gateway Boulevard.
- Gateway Boulevard west to Thornton Avenue
- Thornton Avenue south to Marshlands Road west to Bridge

LOCATION: FREMONT BART STATION TO DUMBARTON BRIDGE BIKE PATH**RECOMMENDED SIGNED ROUTE:**

- Walnut Avenue west to Argonaut Way north
- Argonaut Way to Sacramento Avenue west
- Sacramento Avenue to Logan Drive north
- Logan Drive to Central Avenue west
- Central Avenue to Willow Street north
- Willow Street to Thornton Avenue north
- Thornton Avenue to Marshlands Road west to Bridge

While the most direct and straightforward route from Fremont BART to the Dumbarton Bridge bike path may be to use Paseo Padre Parkway north to Thornton Avenue west, the recommended route is intended to take advantage of the proposed lower volume residential Class III routes, and utilize the Central Avenue crossing of I-880 which is the only non-interchange freeway crossing between Fremont and Newark. This recommended route also takes advantage of existing City of Newark bikeways on Central Avenue and Willow Street.

LOCATION: MILPITAS TO THE FREMONT BART STATION

RECOMMENDED SIGNED ROUTE:

- Warm Springs Boulevard north to Osgood Road
- Osgood Road north to Washington Boulevard
- Continue northeast onto Driscoll Road to Paseo Padre Parkway
- Paseo Padre Parkway north to Walnut Avenue
- Walnut Avenue east to BART station

OTHER BICYCLE NETWORK ENHANCEMENT PROJECTS

TRAFFIC SIGNAL ENHANCEMENTS

TRAFFIC SIGNAL TIMING

Many of the intersections in Fremont are not timed to allow bicyclists to complete a movement through a green light. The issue of proper traffic signal timing for bicyclists (by extending the green time) should be specifically addressed for the intersection of Fremont Boulevard at Washington Boulevard, Bay Street and Union Street. This complex intersection has been noted by bicyclists as particularly difficult to navigate due to the traffic signal timing.

BICYCLE LOOP OR VIDEO DETECTORS

Bicyclists are challenged by intersections where they cannot activate signal detection designed for cars, especially on roads with low vehicle traffic levels. Bicyclists may be forced to wait for a car to arrive at the intersection before proceeding through the light legally. The installation of bicycle loop detectors or video detectors can resolve this issue (see discussion of loop detectors and video detection in Section 5.2.5. of this Chapter and Appendix A of this document). Locations in Fremont in need of bicycle loop detectors include but are not limited to:

- Fremont Boulevard at Decoto Road
- Morrison Canyon at Mission Boulevard

Project Status:

The 2002 City of Fremont Bicycle and Pedestrian Plan notes the need for traffic signal improvements and modifications pertaining to bicycle/pedestrian facilities. It was recommended that these signalized intersections be improved as they pertain to bicycle and pedestrian operations. Possible projects pertaining to bicycles would include bicycle detection timing and signal operations evaluation. The traffic signal bicycle detection project that is being funded by TDA Article 3 funds is scheduled to begin project design in October 2004 and be completed by June 2006.

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6. IMPLEMENTATION

This chapter identifies steps towards implementation of the proposed facilities and programs of this plan, the estimated costs for the proposed improvements and maintenance, and strategies on funding and financing.

6.1. IMPLEMENTATION PROCESS

The steps between the network improvements and concepts identified in this Plan and the final completion of the improvements will vary from project to project, but typically include:

1. Adoption of the Fremont Bicycle Master Plan by the Fremont City Council.
2. Preparation of a Feasibility Study involving a conceptual design (with consideration of possible alternatives and environmental issues) and cost estimate for individual projects as needed.
3. Secure, as necessary, outside funding and any applicable environmental approvals.
4. Approval of the project by the Planning Commission and the City Council, including the commitment by the latter to provide for any unfunded portions of project costs.
5. Completion of final plans, specifications and estimates, advertising for bids, receipt of bids and award of contract(s).
6. Construction of Project.

6.2. HIGH PRIORITY PROJECTS

Once a bikeway system has been identified, the greatest challenge is to identify the top priority projects that will offer the greatest benefit to bicyclists if implemented. Prioritization involves a number of factors, including: (a) cost and construction feasibility given existing traffic, safety, and environmental constraints; (b) need, benefit, and public support; (c) funding cycles and opportunities, and strength of the project as measured by specific funding criteria.

During Public Workshop #2, held in April 2005 to present the Draft Bicycle Master Plan, the BPTAC and members of the public provided input on prioritizing the list of projects discussed in Chapter 5. Based on the public and BPTAC input, those projects that were prioritized highest include:

- Fremont Boulevard to Dixon Landing Connector (either a Class I or Class II option)
- Osgood Road Bike Lanes (Washington to Auto Mall)
- Union Pacific Rail Trail

- Paseo Padre Parkway Bike Lanes (Driscoll to Washington)
- Central Avenue Improvements (Class II or Class III Shared Use)
- Mowry Avenue Class III Shared Use
- Educational and Encouragement Programs

As part of the review of the Final Draft Fremont Bicycle Master Plan by City staff, BPTAC and BPAC members, the Planning Commission, and City Council, the above list of High Priority projects will be further refined and expanded. It is important to remember that the lists of bikeway projects and programs are flexible concepts that serve as guidelines to those responsible for implementation. The High Priority project list, and perhaps even the overall system and segments themselves, may change over time as a result of changing bicycling patterns and implementation constraints and opportunities. The Fremont BPTAC, BPAC, and city staff should review the High Priority project list on an annual basis to ensure that it reflects the most current priorities, needs, and opportunities for implementing the bikeway network in a logical and efficient manner, and that in particular the list takes advantage of all available funding opportunities and grant cycles. As projects get implemented and taken off the list, new projects should be moved up into High Priority status.

6.3. COST BREAKDOWN

A breakdown of cost estimates for the recommended bicycle network provided by this plan is presented in **Table 6-1** below. The cost of the recommended projects is estimated to be about \$5.6 million for Class I projects, \$399,000 for Class II Bike Lane projects, \$58,000 for Class III Arterial/Shared Use projects, and \$124,000 for Class III Neighborhood Bike Routes projects, combined for a total system buildout cost of about \$6.2 million. It is important to note the two following assumptions about the cost estimates. First, all cost estimates are highly conceptual, since there is no feasibility or preliminary design completed, and second, the costs do not include feasibility/environmental/engineering study costs.

All the projects are recommended to be implemented over the next two to twenty years, or as funding is available. The more expensive projects may take longer to implement. In addition, many funding sources are highly competitive, and therefore impossible to determine exactly which projects will be funded by which funding sources. Timing of projects is also something difficult to pinpoint exactly, due to the dependence on competitive funding sources and, timing of roadway and development, and the overall economy.

The projects listed may be funded through various sources. The funding section in this chapter outlines some of the local, regional, state and federal funding methods and resources for non-motorized transportation projects.

Table 6-1
Recommended Bikeway System Cost Estimates

| Name | Start | End | Class | Length (mi) | Cost \$ |
|--|-------------------------|-------------------------|-------|-------------|-------------|
| Recommended Class I Bike Paths | | | | | |
| Alameda Creek Trail Connector | Von Euw Cmn. | Alameda Creek Trail | I | 0.1 | \$64,900 |
| Fremont-Dixon Landing Connector | Fremont Blvd. | Proposed Bay Trail | I | 0.8 | \$456,500 |
| Farwell Trail | Farwell Drive | Lemke Place | I | 0.5 | \$286,000 |
| Hetch Hetchy Trail | Warren Ave. | Scott Creek Road | I | 1.8 | \$991,100 |
| UPRR Rail Trail | Clarke Drive | Warren Ave. | I | 6.9 | \$3,796,100 |
| <i>Total Class I Miles/ Cost</i> | | | | 10.2 | \$5,594,600 |
| Recommended Class II Bike Lanes | | | | | |
| Argonaut Way | Walnut | Mowry | II | 0.4 | \$10,950 |
| Auto Mall Pkwy. | East of Grimmer Blvd. | I-880 Crossing | II | 0.3 | \$7,500 |
| Beacon Ave | Fremont Blvd | Liberty Street | II | 0.3 | \$10,170 |
| Central Ave. | Fremont Blvd | Farwell Drive | II | 1.3 | \$39,330 |
| Civic Center Drive | Mowry Ave. | Stevenson Blvd. | II | 0.6 | \$19,140 |
| Fremont Blvd. | Eggers Drive | Mowry Ave | II | 0.2 | \$7,440 |
| Fremont Blvd. | Enea Ct. | Thornton Ave. | II | 2.0 | \$60,540 |
| Fremont Blvd. | Industrial Pl. | Cushing Pkwy. | II | 0.5 | \$13,770 |
| Fremont Blvd. Extension | Fremont Blvd. | Fremont Border | II | 0.7 | \$20,850 |
| Isherwood/Quarry Lakes | North of Paseo Padre | Union City Border | II | 0.6 | \$17,100 |
| Liberty Street | Capitol | Walnut | II | 0.3 | \$7,800 |
| Mission Blvd. | I-680 | South of Telles Ln. | II | 0.4 | \$11,820 |
| Osgood Road | Washington Blvd. | Auto Mall Pkwy. | II | 1.5 | \$44,040 |
| Paseo Padre Pkwy. | Driscoll Road | Washington Blvd. | II | 1.1 | \$33,930 |
| Peralta Blvd. | Fremont Blvd | Mowry Ave | II | 1.6 | \$48,000 |
| State Street | Mowry Ave | Beacon Ave | II | 0.3 | \$8,580 |
| Walnut Ave | Fremont Blvd | Argonaut | II | 0.3 | \$7,800 |
| Washington Blvd. | Roberts Ave. | Luzon Drive | II | 1.0 | \$30,660 |
| <i>Total Class II Miles/ Cost</i> | | | | 13.3 | \$399,420 |
| Recommended Arterial Class III / Shared Use | | | | | |
| Blacow Road | Thornton Ave. | Dowling Ave. | III | 0.6 | \$5,900 |
| Fremont Blvd. | Thornton | Eggers Drive | III | 1.0 | \$10,140 |
| Mowry Ave. | Mission Blvd. | Existing Mowry Class II | III | 0.3 | \$2,800 |
| Niles Blvd. | Existing Niles Class II | Niles Canyon Road | III | 1.2 | \$11,720 |
| Niles Canyon Road | Niles Blvd. | Union City Border | III | 1.4 | \$13,800 |
| Paseo Padre Pkwy. | Stevenson Blvd. | Grimmer Blvd. | III | 0.8 | \$8,210 |
| Warm Springs Blvd. | Warm Springs Ct. | Mission Blvd. | III | 0.5 | \$4,950 |
| <i>Total Arterial Class III Miles/ Cost</i> | | | | 5.8 | \$57,520 |
| Recommended Neighborhood Class III Routes | | | | | |
| Alder Ave. | Nicolet Ave. | Coronado Drive | III | 0.9 | \$4,345 |
| Balboa Way | San Pedro Drive | Cabrillo Drive | III | 0.2 | \$1,080 |
| Beard Road | Northern Terminus | Milton Street | III | 0.6 | \$2,870 |

6. Implementation

| Name | Start | End | Class | Length (mi) | Cost \$ |
|---|----------------------|-------------------------|-------|-------------|--------------------|
| Bidwell Drive | Sundale Drive | Fremont Blvd. | III | 0.6 | \$3,140 |
| Boone Drive | Wheeler Drive | Blacow Road | III | 0.4 | \$1,925 |
| Butano Park Drive | Omar Street | Yellowstone Park Drive | III | 0.7 | \$3,480 |
| Cabrillo Drive | Decoto Road | Hansen Ave. | III | 1.7 | \$8,550 |
| Cedarwood Drive | Delaware Drive | Doane Street | III | 0.4 | \$1,815 |
| Contra Costa Ave. | Thornton Ave. | Hansen Ave. | III | 0.2 | \$1,055 |
| Coronado Drive | Nicolet Ave. | Thornton Ave. | III | 0.6 | \$3,010 |
| Delaware Drive | Cedarwood Drive | Roberts Ave. | III | 0.4 | \$2,090 |
| Doane Street | Fremont Blvd. | Grimmer Blvd. | III | 0.7 | \$3,610 |
| Eggers Drive | Paseo Padre Pkwy. | Farwell Drive | III | 1.8 | \$9,125 |
| Farwell Drive | Central Ave. | Stevenson Blvd. | III | 2.3 | \$11,375 |
| Green Valley Road | Scott Creek Road | Milpitas Border | III | 0.1 | \$690 |
| H Street | Niles Blvd. | Third Street | III | 0.2 | \$750 |
| Hansen Ave. | Dusterberry Way | Blacow Road | III | 0.7 | \$3,405 |
| High Street | SPRR Tracks | Railroad Ave. | III | 0.1 | \$325 |
| Hilo Street | Robin Street | Omar Street | III | 0.7 | \$3,420 |
| Isherwood Way | North of Paseo Padre | Nicolet Ave. | III | 0.3 | \$1,430 |
| Logan Drive | Central Ave. | Wheeler Drive | III | 1.8 | \$9,135 |
| Main Street | Roberts Ave. | High Street | III | 0.1 | \$680 |
| Milton Street | Beard Road | Paseo Padre Pkwy. | III | 0.3 | \$1,550 |
| Nicolet Ave. | Alder Ave. | San Pedro Drive | III | 1.6 | \$7,950 |
| Omar Street | Stevenson Blvd. | Blacow Road | III | 0.8 | \$4,130 |
| Parkside Drive | Mowry Ave. | Paseo Padre Pkwy. | III | 0.6 | \$3,080 |
| Patterson Ranch/Commerce | West of Paseo Padre | Ardenwood Blvd | III | 0.3 | \$1,635 |
| Peralta Boulevard | Fremont Blvd. | Glenmoor | III | 0.6 | \$3,125 |
| Roberts Ave. | Main Street | Delaware Drive | III | 1.0 | \$4,990 |
| Robin Street | Hilo Street | Blacow Road | III | 0.6 | \$3,200 |
| San Pedro Drive | Nicolet Ave. | Balboa Way | III | 0.5 | \$2,580 |
| Scott Creek Road | I-680 | Green Valley Road | III | 0.2 | \$950 |
| Shinn Street | Peralta Blvd. | Von Euw Cmn. | III | 0.3 | \$1,415 |
| Sundale Drive | Liberty Street | Hilo Street | III | 1.9 | \$9,295 |
| Von Euw Cmn. | Shinn Street | Alameda Creek Connector | III | 0.1 | \$610 |
| Yellowstone Park Drive | Grimmer Blvd. | Butano Park Drive | III | 0.5 | \$2,425 |
| <i>Total Neighborhood Class III Miles/ Cost</i> | | | | 24.8 | \$124,240 |
| | | | | | |
| TOTAL SYSTEM COST | | | | | \$6,175,780 |

*Cost estimates based on cost per mile of:

- Class I = \$550,000
- Class II = \$30,000
- Class III Arterial/ “Shared Use” = \$10,000
- Class III Neighborhood Route = \$5,000.

Maintenance costs for the bikeway network will be relatively low due to the limited number of long Class I path facilities. The existing and recommended bikeway network is predominately made up of on-street bike lanes and routes that will be treated as part of the normal roadway maintenance program. As part of the normal roadway maintenance program, extra emphasis should be put on keeping the bike lanes and roadway shoulders clear of debris and keeping vegetation overgrowth from blocking visibility or creeping into the roadway. The other typical maintenance costs for the bikeway network, as shown below in **Table 6-2**, include the maintenance of signage, striping and stencils.

The total annual maintenance cost of the primary bike path system is estimated to be about \$14,800 per year when it is fully implemented. Bicycle facility maintenance costs are based on per mile estimate, which covers labor, supplies, and amortized equipment costs for weekly trash removal, monthly sweeping, and bi-annual resurfacing and repair patrols. Other maintenance costs include bike lane line and crosswalk restriping, sweeping debris, and tuning signals for bicycle and pedestrian sensitivity.

Table 6-2
10 Year Operations and Maintenance Cost Estimates for
Recommended Bikeway Network

| Facility/Program | Unit Cost (\$) | Unit Description | Units | Cost | Notes |
|--|----------------|------------------|-------|------------------|--|
| Class I Maintenance | 8,500 | Miles/Year | 10 | \$85,000 | Lighting and debris and vegetation overgrowth removal. |
| Class II /Class III Shared Use Maintenance | 2,000 | Miles/Year | 19 | \$38,000 | Repainting lane stripes and stencils, sign replacement as needed |
| Class III Neighborhood Maintenance | 1,000 | Miles/Year | 25 | \$25,000 | Sign and shared use stencil replacement as needed |
| 10-Year Cost | | | | \$148,000 | |
| Avg. Cost/Year | | | | \$14,800 | |

6.4. FUNDING

There are a variety of potential funding sources including local, state, regional, and federal funding programs that can be used to construct the proposed bicycle improvements. Most of the Federal, state, and regional programs are competitive and involve the completion of extensive applications with clear documentation of the project need, costs, and benefits. Local funding for bicycle projects typically come from Transportation Development Act (TDA) funding, which is prorated to

each County based on the return of gasoline taxes. Many of the projects and programs would need to be funded either with TDA, general fund (staff time), and regional, State and Federal sources. The primary funding sources are described below.

6.4.1. FEDERAL FUNDING SOURCES

6.4.1.1. Transportation Equity Act for the 21st Century (TEA-21)

TEA-21 funding is administered through the state (Caltrans or Resources Agency) and regional governments (MTC, Alameda County Transportation Authority). Most, but not all, of the funding programs are transportation versus recreational oriented, with an emphasis on reducing auto trips and providing inter-modal connections. Funding criteria often includes completion and adoption of a bicycle/pedestrian master plan, quantification of the costs and benefits of the system (such as saved vehicle trips and reduced air pollution), proof of public involvement and support, CEQA compliance, and commitment of some local resources. In most cases, TEA-21 provides matching grants of 80 to 90 percent--but prefers to leverage other monies at a lower rate. This Federal Transportation Legislation Program will end in 2003; a new transportation bill, TEA-3, will replace it in September 2003. TEA-3 is expected to continue support for many of the non-motorized programs that were contained in TEA-21, with current discussions pointing to the inclusion of new non-motorized programs.

6.4.1.2. Congestion Mitigation and Air Quality Improvement Program

Congestion Mitigation and Air Quality Improvement funds are programmed by TEA-21 for projects that are likely to contribute to the attainment of a national ambient air quality standard, and congestion mitigation. These funds can be used for a broad variety of bicycle and pedestrian projects, particularly those that are developed primarily for transportation purposes. The funds can be used either for construction of bicycle transportation facilities and pedestrian walkways or for non-construction projects related to safe bicycle and pedestrian use (maps, brochures, etc.). The projects must be tied to a plan adopted by the State and MPO.

6.4.1.3. National Highway System

National Highway System funds are for improvements to the National Highway System (NHS), which consists of an interconnected system of principal arterial routes that serve major population centers, international border crossings, airports, public transportation facilities, and other intermodal transportation facilities as well as other major travel destinations. These funds can be used to provide pedestrian and bicycle facilities constructed on NHS routes.

6.4.1.4. Federal Lands Highway Funds

Federal Lands Highway funds may be used to build bicycle and pedestrian facilities in conjunction with roads and parkways at the discretion of the department charged with administration of the funds. The projects must be transportation-related and tied to a plan adopted by the State and MPO.

6.4.2. STATE FUNDING SOURCES

6.4.2.1. National Recreational Trails Fund

The Recreational Trails Program provides funds to states to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. Examples of trail uses include hiking, bicycling, in-line skating, equestrian use, and other non-motorized as well as motorized uses.

Recreational Trails Program funds may be used for:

- Maintenance and restoration of existing trails;
- Development and rehabilitation of trailside and trailhead facilities and trail linkages;
- Purchase and lease of trail construction and maintenance equipment;
- Construction of new trails (with restrictions for new trails on federal lands);
- Acquisition of easements or property for trails;
- State administrative costs related to this program (limited to seven percent of a State's funds); and
- Operation of educational programs to promote safety and environmental protection related to trails (limited to five percent of a State's funds).

6.4.2.2. Bicycle Transportation Account

The State Bicycle Transportation Account (BTA) is an annual statewide discretionary program that is available through the Caltrans Bicycle Facilities Unit for funding bicycle projects. Available as grants to local jurisdictions, the emphasis is on projects that benefit bicycling for commuting purposes. Due to the passage of AB1772 in the year 2000, the BTA has \$7.2 million available each year until 2005. Following the year 2005, the fund will drop to \$5 million per year unless new legislation is authored. The local match must be a minimum of 10% of the total project cost.



6.4.2.3. Environmental Enhancement and Mitigation Program

Environmental Enhancement and Mitigation Program Funds are allocated to projects that offset environmental impacts of modified or new public transportation facilities including streets, mass transit guideways, park-n-ride facilities, transit stations, tree planting to equalize the effects of vehicular emissions, and the acquisition or development of roadside recreational facilities, such as trails. State gasoline tax monies fund the EEMP.

6.4.2.4. Safe Routes to School (AB 1475/SB 1087)

The Safe Routes to School program is a recently created state program using funds from the Hazard Elimination Safety program from TEA-21. This program is meant to improve school commute routes by eliminating barriers to bicycle and pedestrian travel through rehabilitation, new projects, and traffic calming. In September of 2004, the passage of SB 1087 extended the Safe Routes to School program for 3 additional years.



6.4.3. REGIONAL FUNDING SOURCES

6.4.3.1. Transportation Funds for Clean Air Program (TFCA)

Clean Air Funds are generated by a surcharge on automobile registration in the nine counties that make up Bay Area Air Quality Management District (BAAQMD). Approximately \$20 million is collected annually which funds two programs: the Transportation Fund for Clean Air 60%, a regional competitive fund appropriated by the BAAQMD, and the Program Manager Fund, also known as the 40% Fund, which is returned to each county to be appropriated by its' CMA or Transportation Authority.

The 40% funds are considered local funds; they are competitive and 100% discretionary. Projects must be consistent with BAAQMD's Clean Air Plan and recipient projects are required to document air quality benefits. These local funds can be used as a match for state or federal programs. Applicants for new projects must demonstrate that they applied for regional competitive TFCA funds and were denied, or that the project would not have been competitive for regional TFCA funds. Projects will be scored according to six criteria (cost effectiveness, project effectiveness, local matching funds, new programs, projects of county-wide significance, and mode shift), and reviewed by a scoring panel. The panel may recommend that some projects compete in the 60% category.

6.4.3.2. Transportation for Livable Communities (TLC)

MTC offers two kinds of assistance through the TLC program: capital improvement and planning. TLC grants are competitive funds meant to fund small-scale transportation improvements that are designed to make a big difference in a community's vitality. Eligible projects include streetscape improvements, transit, pedestrian, and bicycle oriented developments. Projects should be designed to "bring new vibrancy" to downtown areas, commercial cores and neighborhoods, enhancing their amenities and ambience and making them places where people want to live and visit.

6.4.4. LOCAL FUNDING SOURCES

6.4.4.1. TDA Article III (SB 821)

Transportation Development Act (TDA) Article III funds are state block grants awarded annually to local jurisdictions for bicycle projects in California. These funds originate from the state gasoline tax and are distributed to local jurisdictions based on population. These funds should be used as leveraging monies for competitive state and federal sources.

6.4.4.2. ACTIA Bicycle and Pedestrian Measure B Funding

The portion of Measure B funding devoted to bicycle and pedestrian improvements totals approximately eighty million dollars, or five percent of all Measure B funding. Of this amount, seventy five percent is classified as local "pass through" funding, and is distributed to the cities and counties according to population. The remaining twenty five percent of the funding is available for countywide planning and capital projects, and is distributed based on a competitive grant process.



6.4.4.3. Regional Measure 2 and Safe Routes to Transit

Regional Measure 2 (RM2), approved in March 2004, raised the toll on seven state-owned Bay Area bridges by one dollar. This fee increase is intended to fund various transportation projects which aim to reduce congestion or to make improvements to travel in the toll bridge corridors. The RM2 funding will be divided between an operating program and a capital program. A portion of the RM2 funding totally twenty million dollars has been allotted for the Safe Routes to Transit Program (SR2T) which will provide competitive grant funding for planning and capital projects intended to improve bicycle and pedestrian access to transit facilities.



6.4.4.4. Mello-Roos Community Facilities Act

Bike paths and bike lanes can be funded as part of a local assessment or benefit district. Defining the boundaries of the benefit district may be difficult unless the facility is part of a larger parks and recreation or public infrastructure program with broad community benefits and support.

6.4.4.5. New Construction

Future road widening and construction projects are a means of providing bicycle facilities. To ensure that roadway construction projects provide facilities where needed and feasible, it is important that an effective review process be in place so that new roads meet the standards and guidelines presented in the County's Bicycle Transportation Plan.

6.4.4.6. Impact Fees

Another potential local source of funding is developer impact fees, typically tied to trip generation rates and traffic impacts produced by a proposed project. A developer may reduce the number of trips (and hence impacts and cost) by paying for on- and off-site bikeway improvements that will encourage residents to bicycle rather than drive. Establishing a clear nexus or connection between the impact fee and the project's impacts is critical in avoiding a potential lawsuit.

Other opportunities for implementation will appear over time that may be used to implement the project.

**Table 6-3
Funding Sources**

| | |
|--|--|
| <u>Acronyms:</u> AQMD - Air Quality Management District Caltrans - California Department of Transportation CMAQ - Congestion Management and Air Quality CTC - California Transportation Commission FHWA - Federal Highway Administration STANCOG – Stanislaus Council of Governments RTPA - Regional Transportation Planning Agency State DPR - California Department of Parks and Recreation (under the State Resources Agency) TEA-21 - Transportation Equity Act of the 21st Century | <u>Jurisdictions for Fremont, California:</u> Caltrans - Caltrans District 4 ABAG—Association of Bay Area Governments ACTIA—Alameda County Transportation Improvement Authority MTC—Metropolitan Transportation Commission <u>Resources:</u> Caltrans TEA-21 website - http://www.dot.ca.gov/hq/TransEnhAct/ |
|--|--|

| Grant Source | Due Date | Agency | Annual Total | Matching Requirement | Eligible Applicants | Eligible Bikeway Projects | | | Comments |
|---|----------------|----------------------------------|--------------|--------------------------|--|---------------------------|------------|-----------|--|
| | | | | | | Commute | Recreation | Safety/Ed | |
| Federal Funding | | | | | | | | | |
| TEA-21 Regional Surface Transportation Program (RSTP) | varies by RTPA | RTPAs, Caltrans | \$320 m | 11.47% non-federal match | cities, counties, transit operators, Caltrans, and MPOs | X | X | | RSTP funds may be exchanged for local funds for non-federally certified local agencies; no match may be required if project improves safety. Contact Cathy Gomes, Caltrans, (916) 654-3271 |
| TEA-21 Congestion Mitigation and Air Quality Program (CMAQ) | Dec. 1 yearly | RTPAs, Caltrans | \$400 m | 11.47% non-federal match | federally certified jurisdictions | X | | | Counties redesignated to attainment status for ozone may lose this source. Contact Cathy Gomes, Caltrans, (916) 654-3271 |
| TEA-21 Transportation Enhancement Activities (TEA) | varies by RTPA | RPTAs, Caltrans | \$60 m | 11.47% non-federal match | federally certified jurisdictions | X | X | | Funds are dispersed through the four shares listed below. |
| Regional Share | varies by RTPA | RTPAs, Caltrans | \$45 m | “ | federal, state, or local, depending on category | X | X | | Funding share to RTPAs. |
| Caltrans Share | varies by RTPA | Caltrans | \$6.6 m | “ | Caltrans | X | X | | Funding share to Caltrans. Available only if regional TEA funds are not used |
| Statewide Transportation Enhancement Share | varies by RTPA | Caltrans, State Resources Agency | \$20-30 m | “ | federal, state (except Caltrans), regional and local agencies with a state partner | X | X | | Funding share for all 12 TEA categories except conservation lands. |
| Conservation Lands Share | varies by RTPA | Caltrans, State Resources Agency | \$11 m | “ | RTPAs, counties, cities and non-profits. | X | X | | Funding share for conservations lands category - acquisitions of scenic lands with high habitat conservation value. |

| Grant Source | Due Date | Agency | Annual Total | Matching Requirement | Eligible Applicants | Eligible Bikeway Projects | | | Comments |
|--|------------------------|----------------------------------|-------------------|--------------------------------------|--|---------------------------|------------|-----------|--|
| | | | | | | Commute | Recreation | Safety/Ed | |
| TEA-21 Recreational Trails Program (RTP) | Oct. 1 | State DPR | \$3 m | 20% match | jurisdictions, special districts, non profits with management responsibilities over the land | | X | | For recreational trails to benefit bicyclists, pedestrians, and other users; contact State Dept. of Parks & Rec. , Statewide Trails Coordinator, (916) 653-8803 |
| Transportation and Community and System Preservation Pilot Program | pending | FHWA | \$25 m nationwide | -- | state, local, MPOs | -- | -- | -- | Projects that improve system efficiency, reduce environmental impacts of transportation, etc. Contact K. Sue Kiser, Regional FHWA office, (916) 498-5009 |
| Land & Water Conservation Fund (LWCF) | May 1st | State DPR | \$7.7 m statewide | 50%, including in-kind | Federal, state, city, county, eligible districts | | X | | Federally-funded. Projects that acquire and develop outdoor recreation areas and facilities. Contact Odel King, State DPR, (916) 653-8758 |
| State Funding | | | | | | | | | |
| Environmental Enhancement and Mitigation Program (EEMP) | Nov. | State Resources Agency, Caltrans | \$10 m statewide | not required but favored | local, state and federal government non-profit agencies | X | X | X | Projects that enhance or mitigate future transportation projects; can include acquisition or development of roadside recreational facilities. Contact Carolyn Dudley, State Resources Agency, (916) 653-5656 |
| Safe Routes to School (SB 10) | May 31 | Caltrans | \$18 m | 11.5% min. | city, county | X | X | X | Primarily construction program to enhance safety of pedestrian and bicycle facilities. Contact. Caltrans District 4, (510) 286-5598 |
| Habitat Conservation Fund Grant Program | October 1 | State DPR | -- | 50% non-state | city, county, eligible districts | - | - | - | Includes a trails/program/urban access category. Contact Odel King, State DPR, (916) 653-8758 |
| Bicycle Transportation Account | December | Caltrans | \$7.2 m | min. 10% local match on construction | city, county | X | | X | State-funded. Projects that improve safety and convenience of bicycle commuters. Contact Ken McGuire, Caltrans, (916) 653-2750 |
| Regional Transportation Improvement Program (RTIP) | December 15, odd years | RTPA | -- | -- | city, county, transit operators, Caltrans | X | | X | Part of State Transportation Improvement Program (STIP), the main state program for transportation project funding. For "improving transportation within the region." RTPA must program funds. |
| Petroleum Violation Escrow Account (PVEA) | On-going | State Legislature | \$5 m | -- | city, county, transit operators, Caltrans | -- | -- | -- | Bicycle and trail facilities have been funded with this program. Contact Caltrans Federal Resource Office, (916) 654-7287 |

6. Implementation

| Grant Source | Due Date | Agency | Annual Total | Matching Requirement | Eligible Applicants | Eligible Bikeway Projects | | | Comments |
|--|----------|--------------------------|--------------|----------------------|--|---------------------------|------------|-----------|---|
| | | | | | | Commuter | Recreation | Safety/Ed | |
| Community Based Transportation Planning Demonstration Grant Program | Nov. | Caltrans | \$3 m | 20% local | MPO, RPTA, city, county | X | | | Projects that exemplify livable community concepts. Contact Leigh Levine, Caltrans, (916) 651-6012 |
| Office of Traffic Safety Grants | Jan. 31 | Office of Traffic Safety | -- | -- | state, city, county | | | X | Bicycle and pedestrian projects have been funded through this program. Contact OTS, (916) 262-0990 |
| Local Funding | | | | | | | | | |
| Transportation Development Act (TDA) Article 3 (2% of total TDA) | Jan. | RPTA | -- | -- | -- | -- | -- | -- | C/CAG |
| ACTIA Bicycle and Pedestrian Measure B Funding | | ACTIA | | | Any public agency that operates in Alameda County. Non-profits and private companies must have a public agency sponsor/lead to apply | X | X | X | |
| RM2/SR2T | | MTC | | | Public agencies in all 9 Bay Area counties. Non-profits must partner with a public agency to apply. | X | | X | Applications must demonstrate bridge congestion reduction (the "bridge nexus") on at least one state-owned Bay Area bridge. |
| State Gas Tax (local share) | -- | State Auditor Controller | -- | -- | -- | X | | X | Allocated by State Auditor Controller |
| Developer Fees or Exactions (developer fee for street improvements - DFSI) | -- | Cities or County | -- | -- | -- | -- | -- | -- | Mitigation required during land use approval process |